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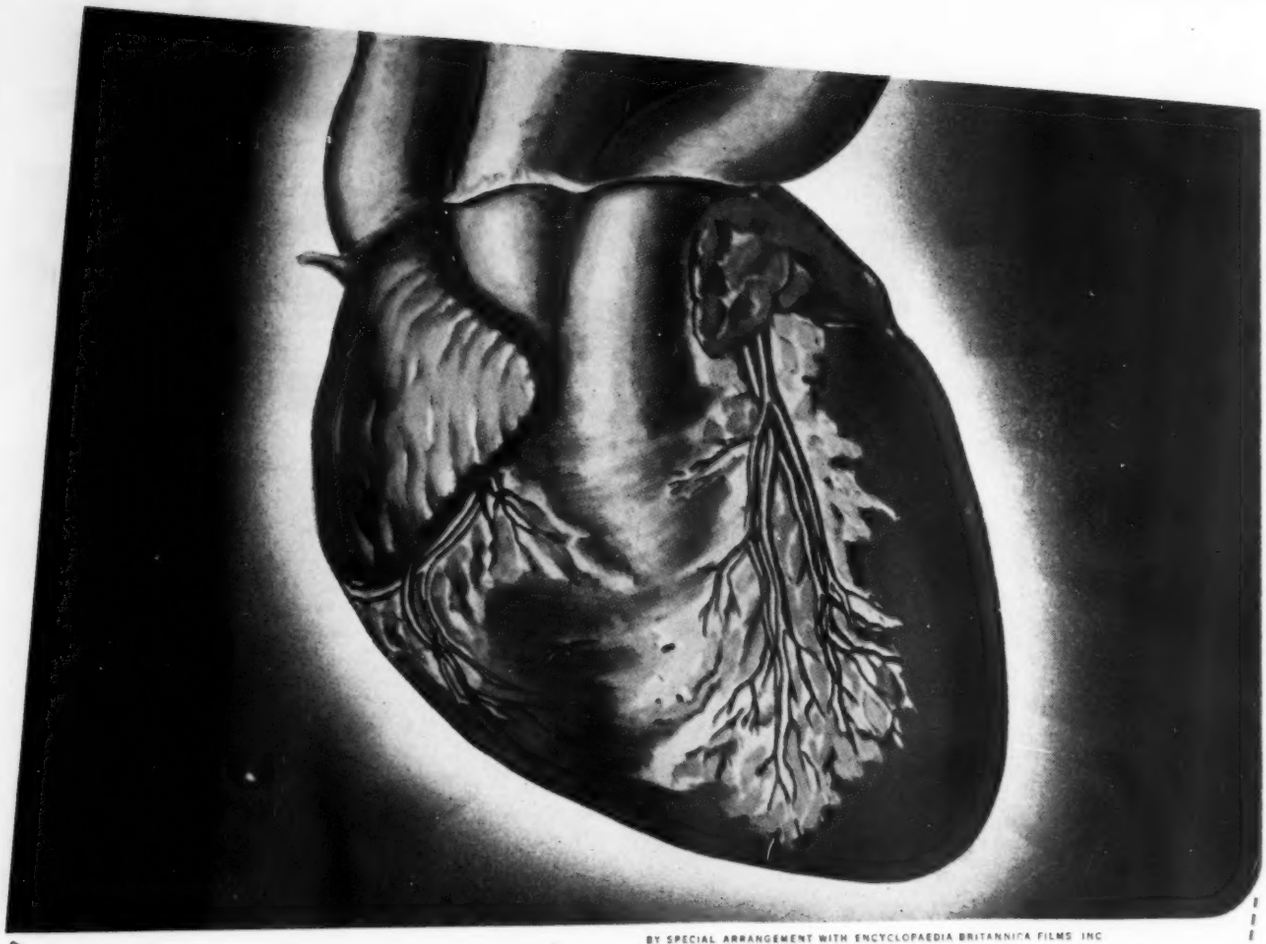

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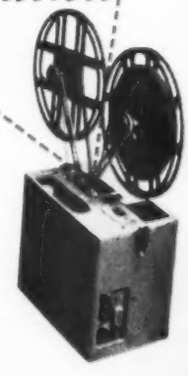

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Courtesy of Farm Security Administration (Photo by Marion Post Wolcott)

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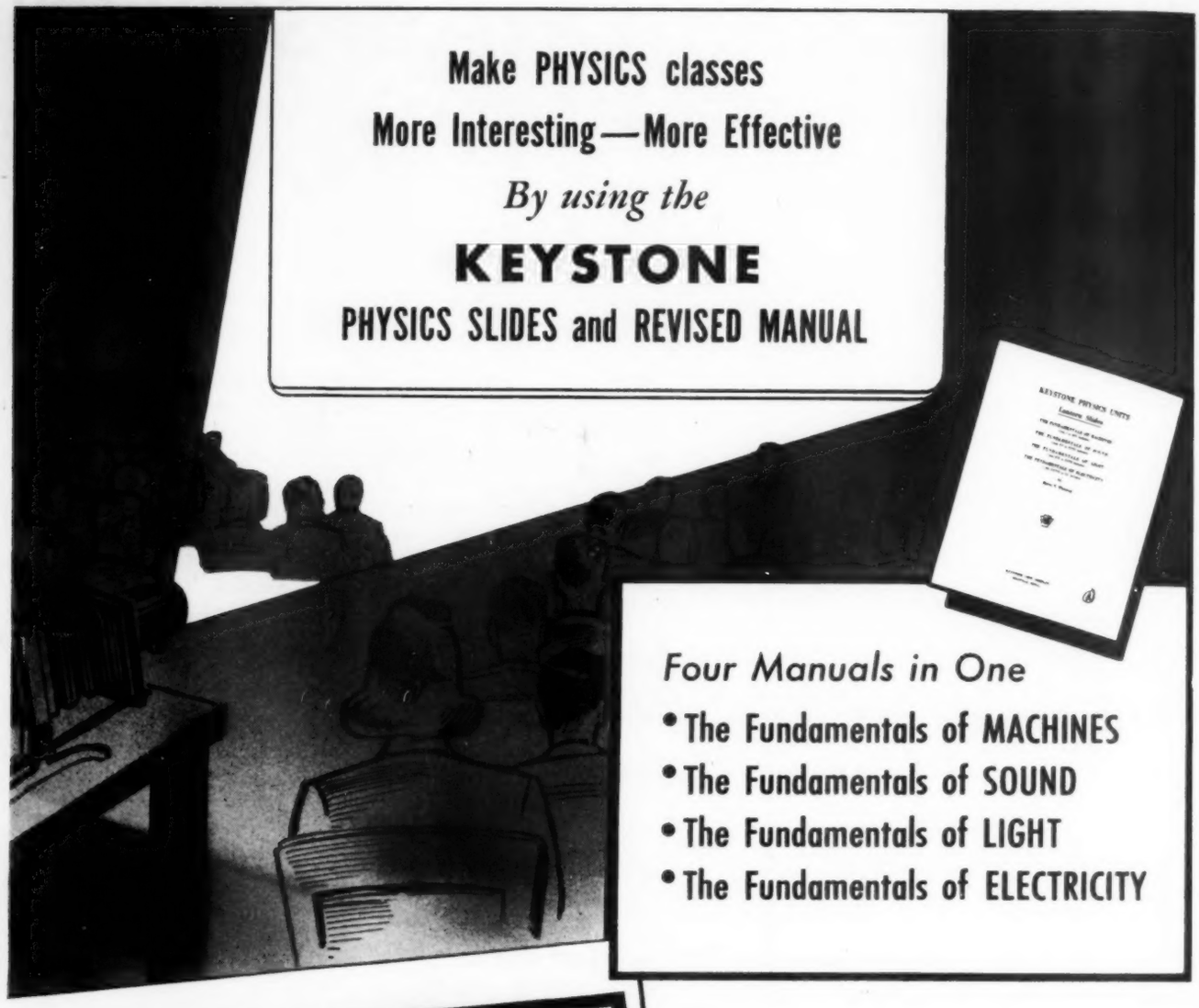

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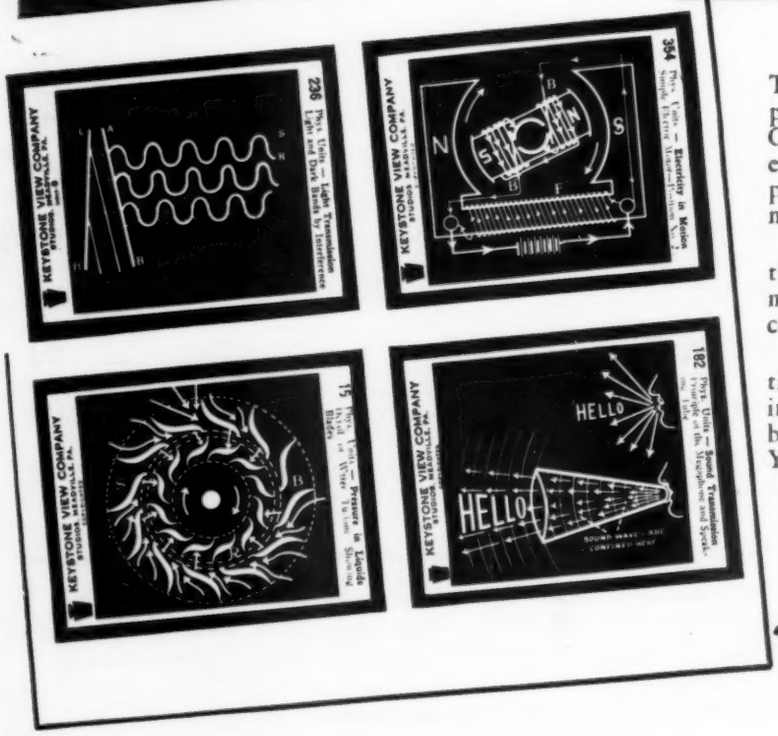

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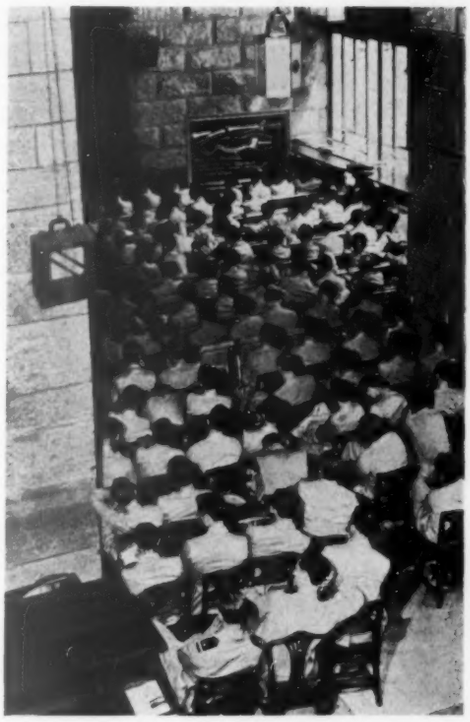
Post War Implications for Education in the Audio-Visual Programs of Our Armed Services

A notable article, finely emphasizing the tremendous values of war-time procedures for visual teaching in the post-war period.

PAUL WENDT,
Director of Visual Education
University of Minnesota

DURING the past three years there has been an unprecedented growth in the production and use of audio-visual aids by the armed services. This development is great no matter by what dimensions it is measured; whether we consider the thousands of training films produced, the millions of feet of raw film consumed, the thousands of men engaged in the production of visual aids of all types and the high quality of these visual aids, or the thousands of showings of training films every day by the training officers using visual aids. Just the quantitative expanse of this development is hard to grasp from the mere figures.

But audio-visual aids have been used intensively before although on a smaller scale. Is there anything really new in these programs of the armed services? As the result of a recent tour of Army and Navy centers for the University of Minnesota, I am convinced that there is. In the planning and utilization of audio-visual aids, as well as in the invention of new devices the armed services have made a unique contribution to audio-visual education in this country.



Illustrated lecture in mess hall.

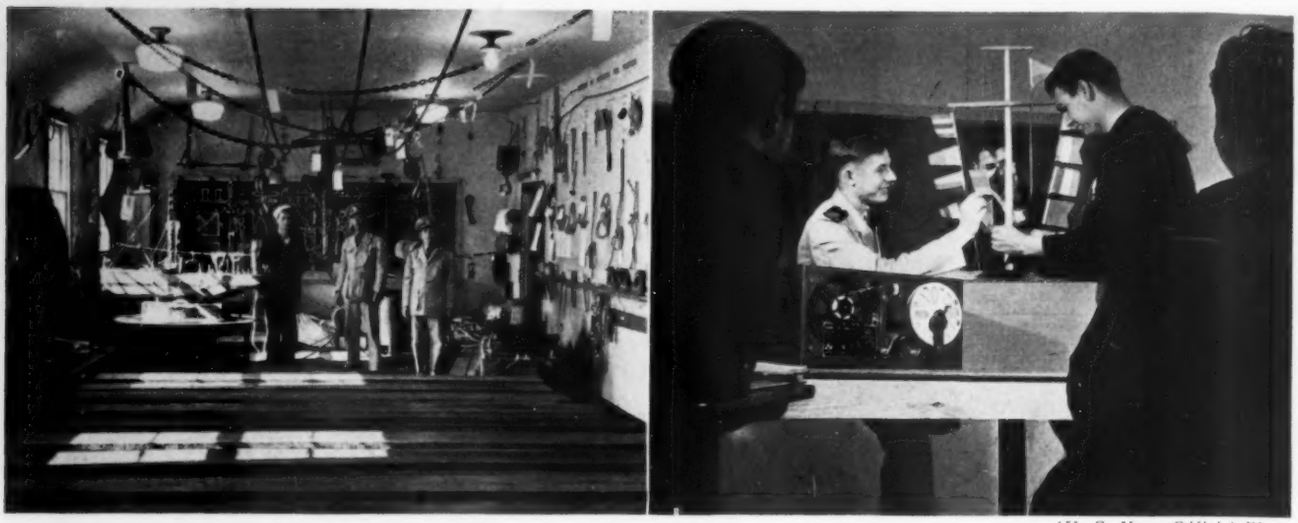
(U. S. Navy Official Photo)

Planning the Production of Visual Aids

In the production of visual aids the basic person involved is the technician who has experience in working in the medium. In motion pictures for example, this is the motion picture producer; in charts, the artist. It is axiomatic that someone with this type of experience is necessary in all productions. Next most important is the subject matter specialist. Those of us who have had experience in producing teaching films know the great contribution that can be made by the subject matter specialist. Whenever a motion picture producer has had to outline the content of a teaching film by himself he has usually got into hot water. As a result all intelligent production of visual aids today is

(Left) A typical Navy Training Aid

(Right) Training in tracer control of anti-aircraft gunnery with the new Mark I Trainer.



(U. S. Navy Official Photos)

(Left) A Seamanship Laboratory. (Right) Dummy flag hoist and mechanical code sender used in Communication class.

done with the help of a subject matter specialist. In production of visual aids in the armed services this is the unbroken rule. Production always orginates from some branch of the service where instructors in their teaching have felt the definite need of a visual aid. Sometimes, as in the Navy, the branch requesting the visual aid supplies the subject matter specialist. Sometimes he is selected from another source. But visual aids in the armed services are never made without him.

In some production a still more enlightened step has been taken. An educator is assigned to the project to guide the producer's presentation of the content along effective educational lines. This is a real innovation, especially in the making of educational films. The previous rare occasions when educational principles have been used in making teaching films usually occurred when a teacher made a film himself. Then the obvious difficulty arose that while he knew more than commercial producers about teaching, the producer of school-made movies usually had to learn film production methods the hard way. By giving the producer-subject matter specialist-educator trio real recognition the armed services have made a valuable contribution to the effective planning of audio-visual aids.

There are other interesting developments in the planning of visual aids. For years there has been a school of thought opposed to the use of humor in teaching aids. In answer to this criticism some of the visual aids produced by the armed services make use of humor in a subtle and most effective way. Walt Disney's organization, after buckling down and learning how to make teaching films, has used its talent and experience to allow the natural humor in a teaching subject to appear in the teaching film. They have refuted the belief that sound pedagogical principles and motivating humor cannot be combined. However, this use of humor in both film and non-photographic visual aids has again aroused a controversy which is likely to remain the inheritance of the post-war educator.

The use of color, especially in the non-photographic training aids, has made a distinct contribution to the effectiveness of teaching. No one who has seen Army and Navy training charts has failed to be impressed with their use of color contrast as a teaching device. Color has also been used on models, mock-ups, and cutaways. The subtle and brilliant color designs used show that the armed services are employing here first rate artists with imagination and originality enough to design visual aids that will do the best teaching job in the shortest possible time.

Utilization of Training Aids

Every visual educator has known for years that the most effective use of a visual aid requires intelligent preparation of the class before the aid is used and that an immediate follow up after the showing is essential. Yet there was a wide gap between our theory and our practice. It remained for the armed services to put into practice on a nation-wide scale what we have always known to be the best methods of utilization. Besides the many officers who take care of the mechanics of ordering and providing audio-visual aids there have been hundreds of officers whose sole concern is the proper utilization of the training aids provided. Their duty is to put into practice those simple rules about the use of visual aids which comparatively few civilian teachers have observed. They have been assisted by specific visual aids made for the improvement of utilization, such as the Army film, *Military Training*, and the Navy film, *Tips For Teachers*. In these films military instructors are specifically directed to make the utmost use of training aids and how to use them intelligently.

A worthwhile contribution to better utilization is the integration of training films and training film strips on the same subject. Occasionally these have been used together before, but never to any degree approaching the present extent. The armed services and the Office of Education have produced whole sets of films and film strips to be used together. In some cases the training film can be used at the beginning of a unit to present an overview of the subject. The frames of the film strip are then projected and discussed in detail. These frames usually cover the important step of the process or operation and the bulk of the teaching is accomplished during this showing. Finally the training film is shown again to tie the separate steps into a unified whole.

(University of Minnesota photos)

(Left) Teaching language with electrical voice reflectors. (Right) Taking a "shot" of an army instruction group.

New Devices

As in industry, the war has brought extra pressure to bear on the invention of new devices in the audio-visual field in order to shorten the war by accelerating learning. We may list under this category the final development of voice reflectors (for training language groups), three dimensional projected slides, and a great variety of ingenious mechanical training aids such as gunnery trainers. Mention should also be made of the extensive and elaborate models devised by Norman Bel Geddes.

Implications for Post-War Education

Too many administrators are trying to dismiss the achievements in audio-visual education by the armed forces with the answer, "Yes, but of course the Army and Navy have had the use of unlimited funds, and so their achievements do not apply to us poor educators." I cannot agree with this point of view. I am sure the armed services have made distinct contributions to audio-visual education which will have a real and dynamic effect upon post-war education.

In the first place we have had a demonstration that when generous funds are supplied for visual aids their use increases almost by geometric progression. Sometimes in the past it has been impossible to prove that the use of visual aids would increase beyond direct proportion to the increase in the budget. Now we have had a demonstration on a grand scale that this is true. Only a war could have provided the funds for such a complete demonstration. Certainly we won't have to argue that side of the case any more with budget directors.

The Army and Navy programs have trained hundreds of officers and civilians in the production of teaching films, projected photograpic aids, and non-photographic aids. The Service men so trained are not all likely to step out of this profession after the war. Certainly many commercial companies have definite plans now for the production of visual aids in peace-times. It would be very surprising, for example, if the educational organization that Disney has built up should be completely disbanded after the armistice. As a result of all these rival companies, competition will be keener, more teaching aids will be produced, and the quality will probably be better than before the war.

After the war we will know much more about the educational planning of visual aids than we did before. In the early days of making training films when educational supervisors were assigned to production, many were amazed to find that there had been few applications of principles of teaching methods or of educational psychology to the making of teaching films. They proceeded to make these applications. For instance, film producers, of course, have long known that a film usually starts with "an establishing" shot. But now we have a reason for this practice from the educator and recognize that it follows the educational principle of first presenting a subject as a whole before breaking it down into its parts.

A better example of the application of educational psychology to the field is the use together of film strips and motion pictures on the same subject, each making its unique contribution to the teaching. The use of a film strip to teach detailed parts of a subject which has already been presented by a training film is nothing more or less than an example of the application to training aids of the principle of a differentiation in educational psychology. Thus the presentation of the whole is followed by differentiation of the parts of the problem. Then the following of this use of the film strip with a second showing of the training film illustrates a clear case of integrating the parts into a unified whole again. From such widely-followed experiments we will have learned more about the planning of teaching aids after the war than ever before. We will not have to cover this ground again.

Nor should there be any question after the war but that there is a place in teaching aids for the skillful, imaginative, and the restrained use of humor. In the past we have had commercial teaching film producers who had vast experience in the use of humor but did not understand teaching. On the other hand we have had producers of teaching films who knew education and who understood the importance of motivation in teaching films but whose lack of experience in the use

of humor frightened them away from it. In the war program these two groups have been forced to work together even though they may have been at odds with each other. The progress they have made in discovering the proper subtle use of humor in teaching films will be an example to post-war producers. Similarly the use of color has become almost an essential to charts, graphs, and posters. Black and white materials are going to seem more and more out of date. Color has a true place as a motivating factor, and its ability to help in differentiation is unquestioned.

The vast utilization program of the armed services will have many results. American colleges are now preparing to receive millions of soldiers returning to school. But these men have been trained intensively with audio-visual aids. They know their value in teaching. They are not likely to take kindly to the straight unmitigated lecture methods. Incidentally their mood is not going to be a submissive one; they are certain to be critical of poor teaching methods. Furthermore these same young men belong to a generation which before it went to war was taught in public schools to some extent by these same visual aids. The implications of these facts to American colleges are important. After all, colleges are the last stronghold of verbalism. Granting that the lecture method will always have an important, unique place in instruction at the college level, American colleges and universities may be due for a rude shock if they do not learn now the lesson that the armed forces have taught us in the value of visual aids in accelerating and improving instruction.

Other observers have already noticed that thousands of instructors in the armed services have been taught how to teach with visual aids. When these teachers return to civilian life they are bound to agitate emphatically and constantly for larger budgets for visual aids in schools. They are likely to insist that visual aids are as much a part of instruction as text books which are now traditionally considered to be essential and entitled to a definite percentage of every school budget. The demands for funds for visual aids after the war in schools are going to be insistent and certain to result in more liberal appropriations. The Army and Navy have shown us how the use of visual aids can expand when money is provided for them. There will be a demand for administrators of audio-visual aids to handle the enlarged program.

Even the new devices created by the war will change teaching methods. The Army has discovered the value of voice reflectors in teaching pronunciation of foreign languages. This was a natural concomitant of the Army emphasis on teaching a speaking and not a reading language. This is far removed from the traditional teaching of the grammar of a language first, a reading knowledge second, and finally, if ever, a speaking knowledge.

In the teaching of language the armed services have also made liberal use of disc recordings and foreign feature films. At the University of Minnesota we have continual showings of feature films in German, Swedish, Finnish, and Japanese. These films together with the use of voice reflectors as practicing instruments has put the teaching of languages on a dynamic basis. The war has seen the development of cellophane tape recordings which can record speech acceptably for eight hours continuously at a very low cost. During the war these are used to record communications between planes and ground stations. After the war they may prove very valuable wherever the exact content of a long interview is important. Psychiatrists and school counselors may find the cellophane tape recording the answer to their problem of recording an hour long interview at little expense.

Three dimensional slides using standard lanterns have been perfected during the war and have been seized by the Air Corps among others to teach map reading and aerial reconnaissance. The fact that these slides can be used in any standard projector eliminates once and for all one of the great handicaps for three dimensional projected pictures. No longer do we need to buy expensive dual projection equipment especially for this purpose. Apparently no handicap will prevent the using of color in three dimensional slides to add still more to the realistic effect. Of course, special viewing glasses must still be used and it is likely that they will always need to be used to reproduce the effect of binocular vision. In other words three dimensional projection has reached a new high plateau of perfection. The next most important step is for teachers to realize that they must accept the students' use of viewing glasses as naturally as the traditional pen and pencil. Once we do this the field of three dimensional projection will expand enormously. The perception of three dimensions is tremendously important to realism and accuracy in visual aids;—far more important than the trivial handicap of viewing glasses.

The audio-visual programs of the armed services are therefore going to have a number of important effects on post-war civilian education. They are going to return thousands of teachers to public schools thoroughly trained in the use of visual aids. They have provided a demonstration of what visual aids can do when they are not hampered at every turn by lack of money, and this, together with the attitude of returning service men, is bound to bring pressure to bear for increased appropriations for visual aids. They should greatly hasten the day of the integrated use of moving and still pictures on the same subject-matter. After the war there will be many new companies making visual aids, and competing for the school's business. These aids will be planned according to the new methods discovered by the armed forces, based on good teaching methods and sound educational psychology. Even new devices will revolutionize certain parts of our teaching methods. We can expect the use of visual aids to penetrate our institutions of higher learning more and more. To handle these increased programs we can expect administrators or coordinators of audio-visual programs to be accepted more naturally as part of our school administration. Following the war we can expect a great and intelligent expansion of the use of audio-visual aids in education. The adolescent days of audio-visual education are over and we can expect them to play a vital and mature role in American education in the future.

The School Made Film for Purposes of Supervision of Instruction

Potentialities of the 16mm motion picture camera for in-service training of teachers and supervisors.

MENDEL SHERMAN,
Cincinnati, Ohio, Schools*

Making primitive forms of pottery by the coil method (from a film on Primitive Man.)

A BASIC concern of the able school administrator is to develop ways of improving instruction within the school system. Various methods are in use already. Teachers take work during the summer. They subscribe to and study educational journals. They attend professional meetings. Yet all of these methods do lack one essential factor, namely, they are removed from the actual teaching situation. A basic need is some method closely connected to the teaching processes. A technique that partially solves this problem is that of intervisitation. In Cincinnati, for example, teachers may have two days each year, with pay, for visiting other classrooms to observe a unit of work. This procedure is certainly one of the most valuable, and yet it has some important short-comings that can be remedied by use of the 16mm camera.

Teaching has changed in recent years from day to day assignments to long range assignments, planning and directed study procedures. Formerly a teacher could visit a class and in a relatively short time observe a unit of work which, on the whole, was of brief duration. Although there are still short units today, the trend is toward those which may last from six weeks to several months, even an entire half year. Intervisitation, valuable as it is, does not lend itself quite as profitably to this new type of planning which covers a much larger area than the old.

The area is often so large that intervisitation is usually done at the conclusion of the unit when a resume of the entire work is given by the children. At this time committees describe the previous activities they have experienced. Their description is augmented by playlets and an exhibit of their handiwork as part of the resume. Actually, however, only the finished product is seen and the description of past processes must be in the form of a verbal rather than a visual presentation. The shortcomings of this procedure may be summarized as follows:

1. *Not all the teachers can visit the resume of a unit of work at the appointed time.* Other pressing matters may interfere. Many teachers who desire to see and are in greatest need of seeing the resume, find it impossible to be present. Usually a small percentage of teachers can attend .
2. *A resume shows a unit in its entirety only.* While it is certainly desirable to see the "whole" the teacher often wishes to concentrate upon certain parts. This cannot be done however. She must take the whole scene enacted by the children.

   If visiting is done during the development of the unit one gets the opposite result. The part only is observed and not the whole. Very often the observer might not appraise accurately the place of the part in the whole picture. Both the whole and the parts should be seen in order to achieve interrelation of the two.
3. *Intervisitation presents a unit at a time when teachers have finished their own on the same topic.* This situation exists because all schools study the same unit at approximately the same time.

   Thus a visiting teacher may become highly enthusiastic about the resume of a unit but can do little about it until the following year. A more desirable time for the presentation of such a resume would be immediately before, or a few weeks before

*Mr. Sherman is now with the Training Film Library, Camp Barkeley, Texas.

starting her own. Then the follow-up could be immediate instead of a year hence.

4. *An intervisitation presents the situation only once.* The new teacher, especially, may desire several repetitions. Even experienced teachers, when starting a new unit or observing one worked out by another teacher, may wish to have the situation or parts of it repeated. Intervisitation will not permit this. One cannot request the children to repeat the unit or parts of it. In this respect the situation is similar to listening to a radio broadcast in that there is no repetition, no turning back for a review. A learning situation, even for the expert teacher, contains numerous aspects. To expect mastery of these aspects in one presentation is contrary to what we believe about the nature of learning. Very little of our knowledge is the result of one presentation.

An application of the principles mentioned up to this point is illustrated in the unit, "Play Through the Ages." This project, developed by a teacher in an elementary school, was presented in resume at the conclusion of the unit to a group of teachers visiting the class on invitation by the director of upper elementary grades. This final presentation was followed by much discussion. The teachers present were treated to an interesting teaching procedure. Many teachers of the school system, however, could not attend at the scheduled time and to those the opportunity was lost.

It is in such a situation that the 16mm camera can make its great contribution. It can record the unit for those teachers who were not present. Furthermore the film can be filed at the visual exchange of the school system and can be distributed to the teachers upon request. Thus every teacher, not just a few, can see the complete presentation of the unit. Many teachers returning to their schools, after seeing "Play Through the Ages," described it to their colleagues with the remark "you should have been there so you could have seen it yourself." A 16mm movie would enable the speaker to put such a statement in the present or future tense instead of the past.

This unit contained many interesting processes during its development. That the teachers were keenly interested in these activities was evidenced by the following discussion. The teacher in charge was called upon to describe the making of the stained-glass window, the costumes, the castle scene, the puppet show, the musical instruments, the obtaining and using of materials, and numerous other processes culminating in the finished product displayed before the teachers.

Undoubtedly every teacher present would have liked to see these activities during their development even though the verbal descriptions were as complete as possible. By means of the 16mm camera every process described by the teacher in charge could be made visual. The film brings out, for example, the steps in making a stained glass window. These procedures would include (a) the committee searching through reference books, (b) seeing several stained glass windows in the vicinity, (c) gathering the necessary materials, (d) outlining the work, (e) drawing, painting and other salient steps in the rest of the preparation leading to the finished product.

The movie would also include the approach to the

Some primitive musical instruments.

unit, as well as the various processes in all other activities of the children. Besides the processes, there could be included a resume of the complete unit such as was presented to the teachers. Thus a teacher could isolate and concentrate upon certain parts and could also see the relation of the parts to the whole. "Play Through the Ages" could be seen as a complete unit. At its conclusion we could repeat the film and concentrate upon the puppet show. There is little danger that the importance or purposes of the puppet show, for example, will be underestimated or overemphasized if the teacher has available the film of the entire unit, including the part played by the puppet show.

A teacher desiring a repetition of a unit will find a ready tool in such a movie. The teacher who remarked that she would like to see the unit again would appreciate the willingness of the movie film to accommodate such a request. The forming of committees and their activities in making reports, using references, making models, building castles and making stained glass windows can all be seen as many times as desired. And when the memory of any part of the unit grows dim it can quickly be recalled by a repetition of the film or any part thereof.

Judging from the discussion and the interest displayed at the resume, it was evident that there was much enthusiasm about the presentation. Many teachers looked back at their own units on the same topic and saw numerous ways in which they could have improved them. Some made written notes or tried to commit to memory ways for improvement next year when their class would again study "Play Through the Ages." By next year, however, much will be forgotten since the situation has been presented only once. The enthusiasm will undergo considerable change. Perhaps some aspects of the unit will take on more importance in the minds of the teacher than these aspects warrant. Unquestionably, a greater benefit could be derived from the presentation of the unit if it could be seen just before the teacher started her own work on the same topic. Here again the movie would be a valuable asset. No memory or written note could compare with an actual re-presentation of the unit. In fifteen minutes the teacher could review the entire project. If she was present at the resume, all the situation would be

vividly recalled and with it all the processes that occurred. Undoubtedly the enthusiasm she displayed ten or so months ago would also return. If she had not been present, she could still see what had been done ten months previously and could use this knowledge in planning her own work.

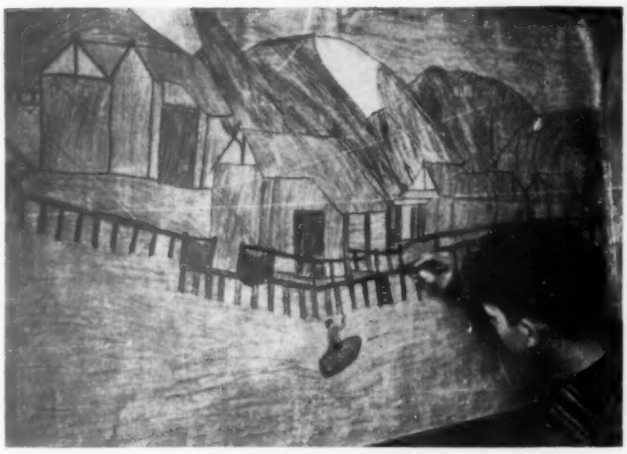
Not only could the teacher view the film before starting her own unit but the flexibility of the medium would enable her to use it during the progress of the unit. Thus it could serve as preparation, guidance, correcting procedures or rechecking at the conclusion of the teacher's own work along the same plan presented in the film.

An added value of the film is its use in meeting individual needs among teachers. The supervisor can group teachers who might discuss problems peculiar to a small group. Teachers new to the school system, teachers in communities with special needs, beginning teachers and teachers with no training in the unit to be taught, are possibilities for various groups. In some cases it might be desirable to show the film to a single teacher in order to meet her individual needs.

Another feature of the film is its possibility for being kept up-to-date. The film can be revised. Obsolete material can be deleted and replaced by newer activities or better approaches. Although the film would not be permanent, its value could be prolonged by revision, a process easily carried out by refilming and splicing.

Because of the apparent possibilities of the movie film in supervision of instruction the writer made a movie of a classrom unit with this purpose foremost in mind. It is true that such a film has its use for public relations and in value for the pupils as a result of the planning and writing of the scenario. But the primary purpose was to prepare a film for use by teachers and teachers-in-training for improvement of instruction. The pretentious title of the film is "The Sixth Grade of Central Fairmount School Presents Its Unit on Primitive Man." Everyone in the class presented written suggestions to the scenario committee who combined the suggestions and presented them to the class. Much writing, rewriting and planning resulted in the following captions which tell the story. Each caption is followed by appropriate scenes.

Studying skin scraper, found in hills near Cincinnati.



Drawings were made by pupils to illustrate reports.

We Listened to the Story of the Cave Twins
We Became Interested and Decided to Study about Primitive Man
We Divided into Committees and Got to Work Making Murals
And Hunting through Books for Materials for Our Reports
The Reports Were First Written in Pencil Then Read to a Committee Member to See if the Meaning Was Clear.
The Final Write-up in Ink and a Picture to Illustrate the Report.
Committees Reporting to the Class—Homes, Food, Clothing
Are There Any Questions or Suggestions?
How We Built Our Cave
The Pottery Committee Reports
How We Went to the Brickyard for Clay and Then Made Our Pottery
The Painting Committee Reports
Each Committee Tells about the Books They Used
The Weaving Committee
The Inventions Committee Presents Its Idea of How Primitive Man Might Have Discovered Fire:

Many years ago before history was written there were two boys, OG and UMPA. They lived in a cave. One night there was a storm and lightning struck a log in front of their cave. In the morning OG stuck his head out of the cave and looked with amazement at the burning log. He was so frightened that he quickly ducked back into the cave. OG got back his courage and again looked out, calling UMPA.

OG and UMPA carefully walked around the log until OG touched it and burned his fingers. Both boys ran back into the cave. When they came out the fire had gone down and both boys were angry. They began to beat the log and rub it with sticks. They noticed that the rubbing made the log warmer so they continued until the dry log was again burning. They could feel the heat. OG suggested that UMPA get some meat on a stick and see

(*Concluded on page* 165)

Storage Problems in Audio-Visual Aids

GORDON C. GODBEY
Lexington Signal Depot
Lexington, Kentucky

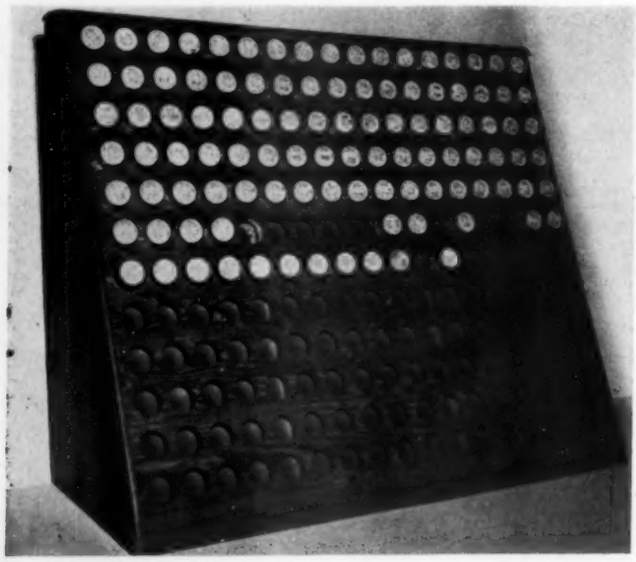
A device, designed by the author, for holding 40 x 60-inch charts used in Signal Corps classes.

IN THE gigantic work of training thousands of men for the all important job of winning this war, many situations have come up that were not covered by Army Regulations; that is, often the job called for something that had not been used or even thought of before. When such a situation arises, there is only one thing to do—overcome it. Results, not excuses, count in the world conflict.

Frequently small things affect the outcome of larger ones, not only in military life, but in the whole course of human affairs. "For want of a nail the shoe was lost, for want of a shoe the horse was lost ....." In such a situation, some blacksmith who made nails that did not lose out of horseshoes might have changed history.

In getting the job done at the Lexington Signal Depot, the Training Division's Training Services Branch faced two small problems that have doubtless faced instructors in other institutions. Col. Laurence Watts, Commanding Officer of the Depot, and Major W. Gayle Starnes, Chief of Training, have given every encouragement to instructors and training officers to use audio-visual aids to the utmost. Providing those aids is the task of the Audio-Visual Aids Section within the Training Services Branch; accompanying that responsibility are the usual problems of maintenance, storage, etc.

The seemingly simple problem of storage caused one of the first problems. As ever increasing numbers of film strips accumulated at the film library, space had to be provided for them—space in which they could be easily picked out from the numbers on top of the cans. At first, racks in drawers were used, but the round cans did not fit well in the partitioned space, and became misplaced easily. The next storage space consisted of horizontal racks one-half inch wider than the cans. This was not satisfactory since cans rolled out unless the rack was full; in addition the lower racks were not visible unless one stooped to look into them.



Home-made rack for the storage of film strips.

After a futile search through catalogs of commercial supply houses, it was decided to design racks to suit the need of the Section. Mr. J. B. Conley, draftsman-designer of the Audio-Visual Aids Section, worked with the author until the holder shown was evolved. There are several advantages to this type rack; each film is visible, any film can be easily located since the filing system is flexible (numerical only); the rack is light enough to be easily moved from place to place. This particular rack is thirty-six by thirty inches on the face with a fourteen by thirty-six inch base, holding 204 films. The size could be altered to accommodate any number of films.

Again, in the Depot schools where the operation, installation, and maintenance of Signal Corps equipment is taught, need was found for enlarged schematic diagrams. This language of symbols used by radio men is difficult to verbalize—difficult if not impossible. When a diagram must be memorized the student and instructor at once fall back on the fundamental language—pictures.

Blow-ups of schematic diagrams were made on cardboard flats forty by sixty inches. These were just the lecture aids needed before classes of from fifteen to forty men. After some weeks, however, the charts became dirty, bent, and generally abused. This was a result of the fact that ten to twenty charts forty inches by sixty inches take up a good deal of space when laid

(*Concluded on page* 172)

MOTION PICTURES—NOT FOR THEATRES

Part 56—Schools, churches and industries were chief bones of contention in the first skirmishes of the talkie revolution. However, spoils did not necessarily go to the victor.

By ARTHUR EDWIN KROWS

HERBERT Clarke Hoover, who then sat in the White House, was by nature and experience in favor of any development which would ultimately help to raise the level of popular education. He was satisfied of the sincerity and competence in this respect of Harley Clarke. So, June 15, 1931, President Hoover authorized the issuance of a letter by Walter H. Newton, his personal secretary, to the Governor of each State, inviting coöperation in furthering the Clarke plan. The letter was skillfully prepared, possibly by Clarke himself.

According to the context it was "at the intercession of the representative public school authorities" that "Mr. Clarke of the Fox Film Company has agreed to prepare" a number of educational films for the purpose. But the "representative public school authorities" who might object to the implication, could read also concerning the plan that, "It is not proposed that it shall lead to exclusive privileges for any particular film company either in the tests or in the subsequent preparation of films, if it should be found that a definite educational value can be introduced into the schools through the use of such films."

The plan itself was simply to hold, at Washington, D. C., from July 6 to 10, 1931, less than a month from the date of the letter to the Governors, a test of the effectiveness of educational films upon a class of representative grammar school boys and girls. The youngsters were to be one boy and one girl from each State, to be selected by the given State superintendent of schools, the pair to be accompanied to and from the Capital by an educational official and all expenses paid.

While arrangements to respond to this offer were being made, the Fox Film representatives in Washington requested and obtained the coöperation of the U. S. Bureau of Education in organizing a group from the National Education Association, George Washington University and the Washington city schools to formulate the detailed plan and conduct the proposed experiment. Members of the committee thus chosen were: Bess Goodykoontz, assistant commissioner of education, U. S. Department of the Interior; Jessie La Salle, assistant superintendent of schools, Washington, D. C.; Elsie S. King, of the research division of the N.E.A.; Mina M. Langvick, senior specialist in elementary school curriculum, office of education, U. S. Department of the Interior, and Dr. J. Orin Powers, associate professor of education at George Washington University.

All of the States, save the State of Washington, sent boys, girls and proper guardians. The films selected for the test, out of a number made available for consideration, was five, although a few other subjects, patriotic in nature, were shown during the event. The five principal talking pictures were: "Toads" and "Monarch Butterflies," with accompanying lectures by Dr. Clyde Fisher of the American Museum of Natural History; "Volcanoes," "Glaciers" and "River Valleys," with recorded talks and demonstrations, including the celebrated "chalk talks" by Dr. Wallace Atwood of Clark University. The general conclusions were that sound pictures are twice as effective as silent ones, and that, after seeing the pictures, the boys and girls knew twice as much about the given subjects as they did before. The full report of the committee was published and distributed gratis to educators generally, as legitimate, further, wholesome publicity for the Fox non-theatrical program.

President Herbert Hoover felt that Harley Clarke's plan to test Fox educational talkies merited authority and support of his high office.

The "Movietone School Series," replacing the "Fox Hour" designation, now began in earnest, with the hand of Harley Clarke much in evidence. The department was conducted from the address of the Fox Studios, at Tenth Avenue and 54th Street, New York City. Old friends became active. Wallace Atwood made a two-reeler for teacher-training institutions, entitled, "The Educational Value of Modern Films," in which he discussed varying techniques and summarized the series. For the series seventeen reels of his physical geography pictures were scored with lectures. He also began a set on "Occupational Geography, or How People Live." Dr. Forest Ray Moulton reappeared, this time with pictures and lectures on "The Story of the Stars" and "The Moon and Its Phases."

Influential newcomers to the Clarke fold were Dr. Clyde Fisher, who had been re-scoring British natural science reels for Erpi, and who now did some of much the same sort for Fox Films, and Dr. Henry Johnson, professor of history at Columbia University, whose patriotic films were the ones shown incidentally to the youngsters during the Washington experiment. To make the "Movietone School Series" catalogue really impressive, there were available also prints of the new theatrical magazine reel, "The Magic Carpet of Movietone," and the old non-theatrical Fox releases.

General selection of subjects to be produced by the Clarke department was a duty assigned to Dr. Ellis U. Graff, former Indianapolis superintendent of schools, president of the department of superintendence of the N.E.A. from 1919-1920, and president of the National Textbook Company. An innovation of importance, showing that Clarke was not heedless of current trends, was the establishment of a Woman's Bureau of the educational department, with Mrs. Grace Allen Bangs, in command. The regional addresses, for obtaining additional information about the work, were those of the offices of Clarke's General Theatres Equipment Corporation. There inquiring educators could have, too, demonstrations of the new Acme sound-on-film projector.

But further consequences of the talkie revolution, which had so coincidentally tossed this opportunity into the lap of Harley Clarke, gave him too little to improve it. The General Theatres Equipment Corporation was used as collateral in bank borrowings, and presently Clarke was superseded as president of Fox Films by a banker, and G.T.E. went into receivership. His vast utility company holdings became unmanageable also, in circumstances involving the collapse of the financial empire of Samuel Insull, of Chicago, with whom he had been associated. It was said that Clarke was definitely and completely ruined, that he had lost in all of this experience approximately a hundred million dollars. Nobody knows. But while Harley Clarke is Harley Clarke there is no telling whether he is finally stopped or not. See what a fire-bird he made from the ashes of an earlier film disaster.

It seemed like an effort of Clarke to provide, in the midst of his overwhelming difficulties, for the security of a pet enter-

prise, that, when the Movietone educational project went under, there began a plan to salvage it. What was called the International Film Foundation was formed in New York City as "an independent non-profit organization for producing and distributing educational films." It was asserted that it had no affiliation whatsoever with any motion picture producer, save that it was an outgrowth, "in some measure," of the Fox educational film department. Its first operations were to be financed by expected returns from a picture showing the aftermath of the Great War, assembled from Fox newsreel material. The picture was to be entitled, "The Cry of the World." Dr. Atwood was the elected president of the new Foundation. Clyde Fisher was represented in it. Mrs. Bangs was its executive head. But, then, like Little Eva, the venture just faded away. Mrs. Bangs became later the director of the Women's Club Bureau of the *New York Herald-Tribune.*

The New Machine

However coöperative the producing companies which leased the Western Electric recording equipment might be, it was not politic to permit them to have too much of the educational production responsibility. So Howard Stokes concluded to find a producer to serve on Erpi's own staff. The opportunity was offered to me, and, as the ruinous competition of talking pictures was now beginning to tell on Eastern Film Corporation, where I was then employed, as it was on the other makers of silents, I accepted as quickly as I could arrange to do so. That was about March, 1930.

The flourishing Electrical Research Products, Inc., of this period was an enterprise the magnitude of which inspired awe. There were about seven hundred Erpi employees in the Fisk Building alone, and many departments, each bustling with actual and potential business and with its own ideas of new developments. The lines dividing these departments, however, were becoming more sharply defined. First of all, the entire enterprise was becoming functionally distinct from Western Electric, the parent company. The engineering division was losing its force in production and narrowing more to aspects of servicing studio and theatre installations already made under lease; the sales contingent, having supplied most of the leading studios and theatres, also under lease, was concentrating on those places which had taken over competitive equipment, to persuade them to replace with Western; an experimental testing section was growing rapidly, with strong ties to the Bell Laboratories; the so-called educational division, under Devereux, was steadily qualifying to speak, within the Bell System, for the entire non-theatrical field. And, so far as the educational division was separately concerned, that was steadily subdividing into educational research, production and sales.

Educational research was at first most restricted. The other subdivisions had their functions scattered over the entire non-theatrical field, embracing churches as well as schools, factories, hospitals and the rest. The non-theatrical salesmen in the several branch offices were probably most conscious of this generalization, but they were regarded mainly as "contact men," the specialist salesmen operating from the home office. In Washington, the national capital, was Hanson E. Ely, Jr., son of the celebrated war hero, General Ely, then commander of the Second Corps Area of New York. "Hanse" was supremely useful for his diplomatic contacts among Government officials. In Los Angeles was Pat Campbell, whom I had known in the long ago when he was Paul Campbell, a cub press agent at the old Thomas H. Ince Studios in Culver City, but now an adult, aggressive "go-getter," wise in the ways of celluloid. At Pittsburgh was Arthur J. Wilson, son of one of the smaller coal operators, but with powerful and intimate friends variously in United States Steel Corporation, among members of the railroad dynasty, and at the H. J. Heinz food-packing plant. In Detroit was the hustling, conscientious W. G. Nichols—known to us as "Nick"—accurately informed on the automobile industry in all of its phases, and especially valuable for his intimacy with the prosperous non-theatrical producers of the area, Handy, Wilding and Caplan. In and around Philadelphia and Trenton moved a friend of Nichols, Robert Spears.

Members of the New York sales group were assigned to what seemed to be the obvious markets. Like their brethren in the field they were concerned primarily with talking picture projection equipment; picture production was then a possibility only dimly, wishfully seen. Edgar M. Stover, as an educator, was assigned to schools, although not too intensively because it was believed that schools would pretty much care for themselves in proper time. Churches were shared by Robert M. Donnelly, a trained advertising man, concentrating on Catholics, and Wendell Shields, son of the Rev. James K. Shields, who had sold his services to Erpi very early as an expert on motion pictures among Protestants. Paul J. Strickler had hotels, Henry F. Gremmel had department stores. And upon Frank H. Arlinghaus devolved attention to the medical groups, embracing chiefly hospitals and professional schools. John A. Thayer, son of a former president of the A. T. & T., was somewhat of a free lance. Head of the sales division, over all of these men, at headquarters and in the field, was the brilliant Edward A. Eschmann, former sales chief of First National Pictures. Assisting in coördination of the work of the representatives, with numerous charts and other collected statistics, was Jack Hanford. The office manager was Ray Zimmer, one of the most even-tempered men I have ever known. There were, of course, various other lesser representatives.

It was supposed that picture production, apart from the making of school subjects which were going to require an unprecedented attention, would be cared for by non-theatrical licensees. Licensees, however, were not signing up as readily as had been expected. Non-theatrical producers generally were interested in talking picture equipment, of course, and many came to inquire about terms, usually to bow themselves out again promptly when they heard the originally stiff stipulations. Beside, the Erpi management was very particular. It did not wish to do business with firms which could not or would not produce evidence of their capacity to develop the field and pay royalties. The rub was that, in Erpi's opinion, only two or three could so qualify.

The Sponsored Talkie Boom

Erpi was in no hurry to modify this opinion because of a new development which looked like a solution. The demand in the theatres for sound films was so overwhelming that even advertising subjects which talked were welcomed there. National advertisers quickly saw their opportunity to reach much greater audiences, and had talkie industrials produced for them by the major theatrical companies. One automobile account sponsored an advertising subject called "Studebaker Champions," in which appeared the Roxy orchestra, Florenz Ziegfeld and flash numbers from his "Follies." The theatrical companies, in turn, saw unexpected opportunities for larger revenues, and again considered the possibilities of conducting departments of industrial production.

Warner Brothers reaped a harvest by circulating advertising talkies through its newly acquired Stanley Chain. Paramount made a few such subjects experimentally and opened a tentative department in connection with the Paramount News division, where Emanuel Cohen presided. Paramount was a theatrical licensee of Western Electric, and, of course, this newer development without a non-theatrical license was somewhat irregular. But Paramount contended that it wanted first to prove the possibilities, and this seeming reasonable to Erpi in view of the large sums mounting from the theatrical talkies multiplying from this source, Paramount made its industrials on a pending arrangement which, as it happened, never materialized in license form. Erpi had ambitious ideas about licenses in those days. There were to have been separate producing licenses for making school films, for churches, for industry, for department stores and so on.

Francis Lawton, trained in high pressure advertising and sales, and a former vice-president of the Jam Handy organization, felt that here was the big opportunity for industrial films, and became sales manager for the Paramount experiment. His chief immediate qualification was that he had negotiated

through Fox-Case a four-reel talking picture on safety for the American Gas Association. Unfortunately that picture had been poorly received in its debut before a trade convention. All the same, it was a talking picture, the mixed result was not Lawton's fault and he had obtained the contract. As that contract represented an impressive sum of money actually paid, it surely was somewhat of an achievement. Lawton, with usual energy and determination, armed with his exhaustive statistics and this backing of a really celebrated Hollywood name, went to work lustily on the new opportunity. But, despite the gathering momentum of the situation, his prospects were slow to move. It was decided, then, that Paramount must have an industrial subject at any price to open the field for itself. It was deemed so necessary that Lawton was eventually ordered to find a beginner, even if Paramount only "broke even" on the costs.

It happened, at this time, that Alison J. Van Brunt, director of safety education at the Public Service Corporation of New Jersey, was about ready to make his annual or biennial picture. As an old hand at supervising film production in his field, he could see no reason why this time he should not have something better than anything he had previously attempted, and, of course, it certainly should be a talkie, especially after the "unsatisfactory" safety picture made for the A.G.A. To discuss the situation he had tried to phone me at Eastern Film Corporation, and, discovering that Eastern Film Corporation had ceased, he finally reached me one evening at home. Learning of my new connection at Erpi, nothing would do but that I should write and direct the new subject for him. I tried to explain that all I could do then for him through Erpi was in the educational division, and that for production he would have to negotiate with one of our industrial licensees; but dogged old Van Brunt would not be put off with such excuses as that.

When the Erpi officials heard about the situation, they suggested that, as the insistence was on the part of the client, and he was asking for me personally, merely as writer and director and not as Erpi representative, I might let the matter develop, and, no doubt, ways and means, naturally appearing thereafter, would satisfy all persons concerned. There were no precedents, of course, and apparently the responsibility had become mine. So I proceeded with caution. Van Brunt was willing to coöperate so long as it was understood that I would direct. The scenario was written and several production concerns which had solicited the business were notified of their respective opportunities to bid. Among the representatives who appeared in answer at Van Brunt's office in Newark, was Francis Lawton, Jr.

Hearing the stipulation that I was to direct, Lawton concluded that Erpi was trying to compete for the business against its own licensees. He called me indignantly, after the meeting, and finally said, "I'm going to have Mr. Adolph Zukor telephone Mr. John E. Otterson to protest that Erpi is using you, one of its own employees, to discriminate against Paramount." Not blaming Lawton for his stand, but unable at the moment to discuss the policy situation with him, I laughingly urged him by all means to proceed along his proposed line, because, I told him, if the president of Paramount would take the trouble to communicate with the president of Erpi concerning me, it would definitely prove that at last I had become important in the industry.

What transpired, to Lawton's great relief, was that the account was awarded to Paramount as the lowest bidder—I already have mentioned the reasons for

Urged of Erpi's ability to spread the work of his Yale psycho-clinic, Dr. Gesell once more consented to demonstrate for a commercial film.

the Paramount desire to have the business on even a low-cost basis. With Paramount as producer, therefore, and Lawton as sales go-between, I wrote and directed the reel in question at an amazingly modest and probably unprecedented sales price at that time, of $4,000.

It is difficult to believe, looking backward, that the established film men could have so deluded themselves as to the supposed permanence of this public acceptance of screen advertising. But nearly all the major distributors took a hand at it. One of the most notable cases was that of "Kinograms." Captain Baynes and Thomas Evans, a laboratory man closely associated with him, decided to turn their once well known newsreel into a vehicle for advertising. In January, 1934, they reincorporated under the laws of Delaware with a stated capitalization of $100,000. They offered "space," or "screen time," to national advertisers on a basis of $20,000 for a guaranteed audience attention of quarter of a million persons, and, this not being taken promptly enough, $3,000 "just to get them in." They induced four large advertising agencies to coöperate, among them McCann-Erickson and J. Walter Thompson. They even signed Henry Ford, the contract to begin as soon as his radically changed new car model, the celebrated "Model A," appeared.

Then, all at once, the bottom dropped out of the "sponsored films" market. Kinograms burst like a bubble, and about one month later appeared the Ford car which might have saved it. The makers of the disinfectant "Lysol" had succeeded beyond expectations with a Max Fleischer animated cartoon showing a comic warfare between mankind and germs; the manufacturers of "Chesterfield Cigarettes" had delighted many audiences with several items in a Paramount series of revived newsreel shots of long past events called "Movie Memories,"—so successful, indeed, that, when the advertiser was obliged to drop out, Paramount continued it without the sponsor's name as a novelty short.

But audiences here and there, becoming quickly used to talking pictures and therefore critical of the product, had decided that they were being imposed upon with advertising matter when they paid for their tickets, and one day they had hissed. Eugene Castle wrote indignant letters to the press demanding that theatres be made to specify ad films as such, and even threatened court action to compel it. An acknowledged hisser was George F. Delacorte, Jr., publisher of the magazine *Ballyhoo*. He attended an uptown New York theatre, it was reported in January, 1932, and saw there a film advertising a railroad. He protested this so loudly that the exasperated manager had him arrested. When he was reprimanded by the police lieutenant who told him that he might have started a riot, he replied, "That's just what I wanted to do."

And finally the exhibitors' associations, seeing the danger of their position, ruled definitely against sponsored films of any sort. Thus, for that period, at least, there could be no more money to be made there. Warner Brothers, probably the most active in the field through the former Stanley Chain, abruptly closed its department which had been running in high prosperity under Ben K. Blake. Paramount did the same, and then naturally informed Erpi that it had decided not to take out an industrial license.

By that time, however, Erpi had set a precedent for its own production of industrial talking pictures when I made the subject for Van Brunt, and thereafter the salesman went more strongly after production accounts, the procedure being, when one came in, to execute it through the facilities of some licensee, under Erpi supervision.

(To be Continued)

The Film and International Understanding

The Film Distributor and International Understanding

DR. JOHN E. DUGAN, Editor
Haddon Heights, New Jersey, Schools

THE phenomenally rapid expansion of the use of the film in the field of international understanding has caused actual practice to follow hard upon the heels of theory and discussion. This rapidity of practical results has to a great extent been made possible by the functioning of a key factor in any extensive film program—the distributor. The distributor may be an individual, a firm, or an organization; but his central position of service and importance remains the same. He is the coordinator who makes practical results possible.

Educators may enunciate the desirability of certain types of films; producers may even produce them; but little of a comprehensive nature in the use of such films can be accomplished until the distributor steps into the picture. He is the coordinator who brings supply and demand together. Sometimes he may create one to satisfy the other. Thus he becomes a creative factor in visual education, rather than just a "filler of orders" for "listed films".

A scene from "Rigoletto" as performed in "Leningrad Music Hall."

Sensing the desirability for certain types of films, the distributor may canvass the field for available material or may induce a producer to make films of that particular type. On the other hand, realizing that certain available material could be appreciated and used more extensively for current needs, he may organize and present information regarding it in such a way that its use is stimulated to the advantage of all concerned. All of these phases have been evident in the contribution of the distributor to the expansion of the use of the film in promoting international understanding.

Educators, governmental agencies, and others became interested in the use of such films. Special films for international understanding were produced. Notable among these were the films of the Co-ordinator of Inter-American Affairs. There was discussion and experimentation. The possibility of using films or parts of films which already were available was discussed. Expansion took place in all directions. But the central problem in the promotion of all this development was that of getting actual films to actual users, and here the distributor had a key part to play.

An important fundamental preliminary to getting films to users was the organization and presentation of information regarding films which were available. The distributor could not content himself with merely listing what was available. He had to make his advertisements attractive and appealing so that readers would want to use what they saw listed.

Various agencies of our own and other governments were notably active and successful in opening up the field; but even they depended upon the distributors for the real footwork. Because of this situation, distributors at first tended to list films in the field of international understanding according to the agencies which sponsored them. A step away from this was the offering of unit programs which might include films from several sources. Then there were various types of "film festivals" which presented films in this field from a variety of sources. The latest development, and apparently the most desirable, is the organization of a body of film resources about a particular topic, region, or nation. This tendency is evident in the new catalogues which are being issued. Various producers and distributors are contributing to this new development in a number of ways.

The most comprehensive presentation of this sort which has come to the attention of this department is the recent Brandon Films catalogue of "Films of the U.S.S.R." Its form and organization is such that it deserves special attention and consideration. The material is presented in a six-page folder, 8½ by 11 inches in size, which is most convenient for filing and easy reference. It presents 100 films about Russia "for better understanding—for lasting friendship". Short films and feature length films are

From "Chapayev", film on the early days of the Soviet regime, when it had to fight off intervention.

included. The material ranges all the way from Eisenstein's *Alexander Nevsky* to *Leningrad Music Hall.* Some were produced before the war; some are most recent. The 100 films are classified under four main divisions: "Our Russian Allies", "The U.S.S.R. at War", "Modern U.S.S.R.", "The History of the Russian People and the Growth of the U.S.S.R."

The division on "The History of the Russian People and the Growth of the U.S.S.R." is composed of thirty feature length films. These films originally were not made as classroom instructional films, but as entertainment pictures of important historic story material. These features may serve as auxiliary teaching aids to the study of the language, area, history, background, etc. The films are arranged in the historical order of the subject matter, and are listed under six sub-headings: "Pre-1900", "1905-14", "The Russian Revolution", "Civil War and Defense of the Republic", "Reconstruction and Building the New Way of Life", "Pre-War Anti-Nazi Films."

The fifty films which make up the division on "Our Russian Allies" are classified under the following subheadings: "The People and the Republics", "Education and Child Welfare", "Sports and Physical Education", "Agriculture", "Song, Music, Dance", "The People at War", "War Newsreels", "The Russian Front", "USSR and Eastern Europe", "Comedies".

Stalin, Maxim Gorky and transpolar aviation ace, Chakalov seen in "Wings of Victory," reflecting Russia's interest in aviation in pre-World War II.

The comprehensive nature of this list of films on Russia is further indicated by the fact that each film is briefly described, is slanted toward international understanding, its running time given, etc. In presenting this type of list, Brandon Films has rendered a distinct service to the promotion of the use of films in promoting international understanding. It is to be hoped that similar lists of film resources for other topics, nations, etc. will be forthcoming in the future.

(Illustrations accompanying this article were furnished through the courtesy of Brandon Films.)

The School Made Film for Purposes of Supervision of Instruction

(*Concluded from page* 159)

> what the fire would do to it. They liked the result and thereafter roasted their meat.

It is not supposed that such a movie will do the job alone. Other means of describing a unit of work and inducting the teacher into a similar task will be necessary. There exist certain shortcomings to the movie that make a combination of media desirable. The movie film calls for rehearsed scenes as only the important aspects of the work can be taken. These must be carefully planned. In planning these the film may pass hurriedly over or completely ignore an aspect of the work that another teacher may wish to know more about.

To give a more complete description of a unit with all static details, it is essential to accompany the supervisory film with a series of photographs or a film strip and a written description. The movie can cover the chief items and supply the necessary action. A series of photographs or a film strip can supply important settings that do not require action. These scenes can be used for detailed study. A written description can give a detailed account of the entire unit. This would take care of the strictly verbal or abstract phases of learning that do not lend themselves readily to filming. Included in the written description would be the bibliography, the materials used, provisions for individual differences, a discussion of the objectives, appraisal, and correlation with other subjects.

This combination of a movie, a film strip and a written description of a unit of work can make a definite contribution toward helping a teacher in her classroom procedure. Possibly such films are best made by teachers in the school system. Careful planning with supervisors, principals, and teachers and pupils will result in films that will be practical and acceptable from the teacher's point of view. School people producing such films will find that the process will help clarify their own objectives and the finished product will prove an excellent stimulus for improving their own supervisory and teaching procedures.

Summer Courses in Visual and Audio-Visual Education, 1944

The following courses have been reported to date. Figures in parenthesis show semester or quarter credits. An additional list will appear in May.

Arizona

University of Arizona, Tucson — June 5-July 8
Visual and Auditory Aids in Teaching (2) — E. L. Larson

Colorado

University of Colorado, Boulder — July 1-Aug. 24
Visual Aids (2) — Lelia Trolinger

Connecticut

University of Connecticut, Storrs — June 26-Aug. 4
Audio-Visual Aids in Education (3) — David E. Strom

Georgia

University of Georgia, Athens — June 7-July 14
Audio-Visual Aids (5 qr.) — H. B. Ritchie

Illinois

Northwestern University, Evanston — June 26- Aug. 5
Visual Teaching Aids in the Classroom (3 qr.) — Charles Crakes
University of Chicago, Chicago — June 19-July 29
Auditory and Visual Instruction (3⅓) — I. K. Tyler

Indiana

Ball State Teachers College, Muncie — June 12-July 14
Audio-Visual Education (4 qr.) — Evelyn Hoke
Butler University, Indianapolis — June 19-Aug. 12
Visual Education (3) — H. A. Henderson
Indiana University, Bloomington — June 24-Aug. 21
Utilization of Audio-Visual Aids; Administration of Audio-Visual Aids; Production of Audio-Visual Aids; Research in Audio-Visual Education (Hours to be arranged) — Carolyn Guss; L. C. Larson

Kansas

State Teachers College, Emporia — May 31-July 28
Visual Education (2) — S. W. Cram

Massachusetts

Boston University, Boston — July 5-Aug. 12
Use and Management of Visual Aids in Education (2) — John G. Read

Minnesota

University of Minnesota, Minneapolis — June 12-July 22
Visual Aids in Teaching (3 qr.) — Paul Wendt

Missouri

Washington University, St. Louis — June 19-July 28
Audio-Visual Instruction (3) — Alma B. Rogers

Nebraska

State Teachers College, Wayne — June 5-Aug. 4
Audio-Visual Education (2) — George Seeck

New Jersey

State Teachers College, Trenton — May 8-Aug. 18
Visual Education (3) — Lycia O. Martin

New York

Columbia University, New York City — July 3-Aug. 11
Audio-Visual Aids to Instruction (2) — M. R. Brunstetter
Laboratory Course in Audio-Visual Instruction (2) — Etta Schneider Ress
Cornell University, Ithaca — July 3-Aug. 12
Visual and Auditory Aids in Teaching (2 or 3 qr.) — P. G. Johnson

North Carolina

East Carolina Teachers College, Greenville — June 8-Aug. 30
Visual Aids in Education (3 qr.) — C. L. Adams

Ohio

Ohio University, Athens — June 5-July 28; July 31-Sept. 22
Audio-Visual Education (2 each term) — Margaret Hampel; Margaret Flanagan
State University, Bowling Green — July 3-Aug. 25
Audio-Visual Aids in Education (3) — Herschel Litherland
University of Cincinnati, Cincinnati — June 20-July 25
Audio-Visual Aids in the Classroom (2) — Victor Coles

Oregon

Eastern Oregon College of Educ., LaGrande — June 5-July 12
Audio-Visual Aids (3 qr.) — Ralph E. Badgley

Pennsylvania

Albright College, Reading — June 12-July 22
Visual and Other Sensory Aids in Teaching (3) — V. C. Zener
Bucknell University, Lewisburg — July 3-Aug. 10
Visual Education (2 or 3 qr.) — John W. Rice
College Misericordia, Dallas — June 22-Aug. 3
Visual Aids and Sensory Techniques (3) — Sr. M. Immaculata
Drexel Institute of Technology, Philadelphia — June 26-Aug. 4
Visual and Audio-Education in Home Economics (3 qr. or 2 sem.) — Amanda Ebersole
Duquesne University, Pittsburgh — July 3-Aug. 11
Sensory Aids (2) — Michael Ferenis
Geneva College, Beaver Falls — June 12-July 12
Visual Education (3) — John S. McIsaac
Grove City College, Grove City — May 31-July 22
Visual-Sensory Education (3) — R. G. Walters
Lebanon Valley College, Annville — June 5-July 14
Visual and Sensory Techniques (2 or 3) — Cyde S. Stine
Lehigh University, Bethlehem — June 20-July 31
Visual Instruction (3) — W. G. Hayward
State Teachers College, Clarion — June 26-Aug. 5
Visual Education (1) — D.D. Peirce
State Teachers College, East Stroudsburg — June 25-Aug. 5
Visual Education (1) — F. B. McGarry
State Teachers College, Edinboro — June 26-Aug. 5
Visual Education (1 or 2) — F. S. Heinaman
State Teachers College, Indiana — June 5-23; June 26-Aug. 4
Visual Education (1 first term; 2 second) — Wilber Emmert
State Teachers College, Mansfield — June 5-Aug. 23
Visual Education (1) — Cyril Stout; Isaac Doughton
State Teachers College, West Chester — June 26-Aug. 4
Visual Education (1) — Thomas S. Heim
Susquehanna University, Selinsgrove — June 20-July 29
Visual Education (3) — George E. Fisher
Thiel College, Greenville — June 5-July 21
Visual Education (2) — H. G. Gebert
University of Pennsylvania, Philadelphia — July 6-Aug. 30
Visual Techniques (2) — John H. Minnick
University of Pittsburgh, Pittsburgh — June 26-Aug. 4
Visual Education (2) — Herbert T. Olander
University of Scranton, Scranton — July 10-Aug. 18
Visual Aids and Sensory Techniques (3) — L. Paul Miller
Westminster College, New Wilmington — June 5-July 14; July 17-Aug. 25
Visual Education (3) (Tentative) — Harold L. Brennan

Texas

Sam Houston Teachers College, Huntsville — May 30-July 22
Administration in Audio-Visual Aids (3) — J. H. Aydelotte

Virginia

Roanoke College, Salem — June 14-July 28
Preparation and Use of Classroom Materials in Visual Education (2) — Miles S. Masters

Wisconsin

Stout Institute, Menomonie — June 19-July 28
Visual Education I and II (2 each) — Paul C. Nelson

Washington

State College of Washington, Pullman — June 5-July 30
Audio-Visual Education (3 or 4 qr.; 2 or 3 sem.) — Claude Simpson

An additional list of courses will appear in May. Readers who know of visual courses to be given this summer are earnestly asked to send us names of the institutions offering them, with as complete data as possible.

Miscellany of the Month

Events and Achievements

MARSHALL College (Huntington, W. Va.) has promoted study of Inter-American relations by opening a "Campus-Center" for programs with films, speakers, discussions. Primary aim to train teachers for classroom emphasis on the subject.

• The month-long Red Cross Drive ($200,000,000.00) is getting nation-wide support from movie exhibitors. In the first week some 15,000 theatres had pledged "collection at every performance," and record collections were already being reported toward their $10,000,000 quota.

• A choice bit of visual education from Portugal. The old university town of Coimbra has just finished its "children's city" within a city park—houses, streets, squares, townhall, stores, marketplace, church, harbor, lighthouse, etc., all in miniature, proportionate to the under-seven-year-olds for whose educational experience it was designed.

• Nelson Rockefeller has finished a two-weeks tour, his first official inspection of South American agencies of the Office of Coordinator of Inter-American Affairs.

• Re-release of *Snow White* (1938) is reported breaking records as it deserves —e.g. 10,000 saw the February premiere in Cincinnati. And the London premiere (February 28) of *Madame Curie* yielded over $20,000, the proceeds turned over to the Marie Curie Cancer Hospital.

• The Department of Visual Instruction of the Chicago Schools. (Joseph Dickman, Director) has placed 20 prints of 20 Erpi Sound Films in each of Chicago's forty High Schools for their permanent possession—a little item of 800 films! The 20 titles were determined by majority vote of the forty High Schools themselves.

• Another war development—16mm reduction-printing from 35mm sound films is now near perfection. By processing picture and sound track separately, there have been achieved higher fidelity sound, sharper pictorial contrast, capacity for greater enlargement on screen, and speedier processing.

• Paramount's location department maintains a permanent reference file of 2 x 2 Kodachrome slides made on scouting trips. Projected at studio, these are invaluable for selecting sites and backgrounds for forthcoming pictures. Some 500 slides made recently for a single production sufficed also to determine locations for a following feature.

• The new tax (April 1st) on movie admissions, about double previous rate, results apparently in raising all admission prices about one dime each. This will put some $300,000,000 into the national war chest. It is estimated that 90% of amusement tax collections are from motion picture theatres.

Surveys and Statistics

THE Adult Education Council faces heavy post-war problems, as reported by its Survey Staff, George D. Strayer, Chairman. The Council, now handling a 40,000 audience, should take on another 360,000 men and women over 25 who never went to any school, plus 3,000,000 adults who never went beyond 8th Grade. A perfect job, this, for the sound motion picture.

• During 1943, the Army Overseas Film Service, through 19 Exchanges, gave over 1400 shows nightly—369 features, 556 shorts, 520 newsreels. Of the features, 10% were war films, 18% had war background, 72% made no reference to war. (At home, newsreels were 89% war).

• Will Hays' annual report emphasizes the Industry's tremendous part in maintaining military and civilian morale by its regular production. In addition, it supplied free over 9500 prints of over 200 current releases for use in combat areas around the world—to the Army's production of 708 training films, it has contributed 108 at actual cost—and over 1500 actors have made over 12000 free personal appearances on some 2200 programs abroad—not including countless shows and appearances for millions of the armed forces in 930 military screening centers at home.

• Hollywood evidently "does its bit" not only by pictures. About one-third (6500) of the motion picture industry (19,600) is in the armed forces. Nearly one third of that third (1950) were actors and staff-members of the studios.

• First survey by the Morale Division shows that 7% of our armed forces think they will go back to full time school or college after the war, 17% are thinking of part-time. Much will depend on economic conditions and government aid. Incidentally, the 7% represent about 40% of the total 1940 enrollment of all colleges and universities in the country.

• February saw weekly Hollywood production at new low for 12 years—30 pictures shooting. By mid-March 37, and 46 by end of month. (Last year saw a February low of 33 climb to 51 by July and hold to near-December).

• CBS report for 1943 shows: 9329 hours, with 90 sponsors, comprised Music 38%, Drama 26%, News 16%, Variety and Comedy 10%, Talks and Discussions 9%, Religion 1%. Of all these, 58% devoted part or full time to war effort themes. In addition 800 expressly educational program periods were withheld from sale—Invitation to Learning, People's Platform, American School of the Air—the last with Teacher's Manual sent on request to 160,000 teachers conducting classroom listening periods. Likewise for 220 religious program periods, divided equally among all denominations.

Plans and Predictions

FEBRUARY saw the formation of two impressive commissions—(1) A "Commission to Study Freedom of the Press, Screen and Radio," with Robert Hutchins, President of the University of Chicago, as Chairman. Results expected in two years. And (2) A "Commission on Motion Pictures in Education," with a membership of eminent educators and financed generously by eight leading firms of the motion picture industry!

• The O W I plans no expansion of its domestic film activity, is content with its present $50,000 appropriation, and will leave production to more expert Hollywood. Robert Riskin, head of O W I's Overseas Film Division, announces half production completed and second half to comprise educational, industrial, health films, to show American life in relation to war and United Nations.

• Stettinius urges world-wide good-neighbor policy, built on C I A A pattern, using motion pictures and radio under sole direction of the State Department. Looks like an "Office of World Information" after all (Educational Screen, September, 1943).

• Warner will allow broadcast of its pictures only after four months of theatre circulation, because "radio doesn't do anything for a story property nor for the film's star."

• The Division of Visual Education (Philadelphia) has organized a group of over 100 students, from every city High School, for film review, criticism, discussion, with Director Paul E. Long in charge. Newspaper film critics, as leaders and advisers, will conduct the weekly sessions. Aim, to learn all about movies as Art.

• "Youth in Crisis," recent March of Time study of juvenile delinquency, is to be on sale to non-theatrical and educational field in 16mm sound prints.

• By next fall there is expectation of the end of raw stock allocations and of the two-year government control over the motion picture industry through the WPB Film Section. It would be the first major industry to be freed.

• There is reported a plan, now in work for the Massachusetts State Department of Education, to make about 20 very short reels for class use, to test out the field for more extended production—also a similar project of the Scottish Film Council in Edinburgh, backed by the Carnegie United Kingdom Trustees—all of which is pretty interesting news in wartime.

• Within ten years after the war, RCA's Ralph R. Beal told San Francisco Engineering Council, there will be several hundred television theatres open, showing events as they occur, on screens up to 15 x 20 feet, all connected into national television networks.

THE NEW ENGLAND PAGE

Conducted by

The New England Section (Zone 1) of the Department of Visual Instruction of the National Education Association of the U.S.

Editor, JOHN H. LYONS

In-Service Training in Visual Instruction In the Reading, Mass. Public Schools

DOROTHY A. ALLARD, Director of Visual Education

THE fact that many teachers in service have never been trained in the use of visual instruction tools convinced the director of visual education of the Reading schools that a program of teacher-training would be helpful in securing a wider use of visual aids in the elementary schools. Accordingly, with the complete cooperation of Dr. E. C. Grover, superintendent of schools, a two-year teacher-training program was organized.

Because the superintendent is such a firm believer in the value of visual aids in education, the teachers in the Reading schools are more than fortunate in the amount and variety of visual aids provided for their use. Each of the two large elementary schools possess a 16mm. sound motion picture projector, a stereopticon, an opaque projector, a filmslide projector, stereoscopes, stereographs, lantern slides, filmstrips, beaded screens for both auditorium and classroom use, and other miscellaneous equipment. Of the three primary schools, housing grades one to four, two of them have practically identical equipment which is used between the two schools; while the third school has the use of the equipment in one of the near-by larger schools. The Junior and Senior High Schools, too, possess similar equipment. In addition to these aids permanently located in the various schools, the school department owns, for use in any school, the following materials: a 16 mm. silent motion picture camera, flood lamps, a "copy" camera for making film strips, and photographic lantern slides, and a "play-back" instrument for the reproduction of 16" records. Likewise, the Senior High School, and one of the larger elementary schools, each have a public address system over which records can be played.

In spite of the fact that there was so much equipment at hand it was felt that the teachers were not making the fullest use of the materials available. A few teachers had taken courses at Boston University and were doing excellent work in their own particular classrooms. However, these few teachers were not enough. Our ideal was to have all the teachers aware of, and trained in, the use of various visual aids. An analysis of the situation brought out the fact that the primary reason for the non-use of visual aids was the lack of knowledge, on the part of the teachers, as to the operation of the projectors, and a lack of training in efficient methods of instruction with visual aids.

Therefore, feeling that a knowledge of how to operate the various projectors would give the teachers an incentive for more immediate use of the equipment, it was planned to offer to all elementary teachers a practical course in the operation of the equipment. This course was given free one afternoon a week for a ten to twelve week period, by the director of visual instruction. Instruction was given at the various schools where the equipment was located, thus, giving teachers practical experience with the specific apparatus which they would use. Instruction was on both a group and individual basis and no teacher successfully completed the course until she demonstrated her ability to use properly each type of projection equipment. The teachers were most coöperative and willing to learn and expressed satisfaction in the practicality of the course.

As a result of the course in several of the elementary schools in Reading all teachers are proficient in the use of their visual equipment, and in other schools over seventy-five per cent know how to use the various projectors. Furthermore, we find a definite increase in the number of instances when visual aids are being used. Also, we now have requests from teachers for the latest information and material in the field.

Having made the elementary teachers aware of the possibilities in visual instruction through an acquaintance with the various tools, the next step was to demonstrate some of the specific techniques to be employed in the most efficient use of these tools. Accordingly, in October 1943 a course in methods in visual education was offered, free, to the elementary teachers by the director of the department. This course has been held at one of the larger elementary schools one afternoon every two weeks over a period of twenty weeks. *Enrollment in the course was on a voluntary basis and the average attendance at each meeting was about thirty teachers out of a possible thirty-five!* In the opinion of the writer this testified to the fact that teachers sincerely wish to learn the newer techniques if suitable and practical opportunities are presented for them to do so.

The course consisted of discourse, demonstration, and discussion of the following topics: the school journey, the school museum, the flat picture, graphic materials, opaque projection, the stereograph and the stereoscope, the glass slide and stereopticon, filmstrips and their projection, and the motion picture.

This program has been interesting and worth-while to teachers and director alike. The only disadvantage has been the insufficient time, the amount that could be allotted for the courses, to cover in as thorough detail as we would like all the phases of visual instruction. However, a good start has been made, and the hope is that the teachers will now have the courage, and the desire, to make a wider use of the possible visual techniques. It is also hoped that from the experiences of these teachers will come material for a practical handbook on the use of visual aids, or teachers' manual, that can be used in the Reading schools.

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The Literature in Visual Instruction

A Monthly Digest

ETTA SCHNEIDER RESS, Editor
New York University Film Library

PRODUCTION-UTILIZATION

WHAT THE ARMY AND NAVY ARE TEACHING US ABOUT VISUAL AIDS: A SYMPOSIUM— *California Journal of Secondary Education* 19: 14-29 January, 1944. 50 cents.

Featured in this issue is a symposium of five articles reporting on the use of visual aids in the Army and Navy. In an editorial introducing this symposium, Dr. Frank W. Thomas, president, California Society of Secondary Education and president of Fresno State College, calls attention to the impetus the war has given to visual instruction. Out of the pressure of wartime instructional needs came the realization that words alone would not suffice to bring about the clarity in learning upon which so much depends. The result was the development of a variety of visual aids by various divisions of the military services which have not only made instruction more speedy and accurate, but which also have made obsolete some of our teaching practices and assumptions. Dr. Thomas points out the necessity of modifying instructional practices in postwar teaching so as to capitalize more fully on the first-hand experiences and perceptions which the pupils can derive from visual aids. "The institutions engaged in teacher education will have obligations imposed by such developments, but it will be upon the teachers now in service that the responsibility will rest for making those readjustments essential to the successful utilization of resources which promise a challenging adventure in the improvement of teaching."

Walt Disney, in a statement written especially for the symposium, foresees that "films will be a great means of education . . . but their real worth will be established only when the men who teach join with the producers in presenting their thoughts in a way which will hold their classes—in other words, educate through entertainment."

Digests of the five symposium articles follow:—

Animated Cartoons Join the Teaching Staff, by Franklin R. Thomas, a member of the Disney staff before entering the Armed Forces, is a significant interpretation of the effectiveness of cartoon characters in terms of the psychology of learning, based on the experiences of the Motion Picture Unit of the Air Forces, to which the author was assigned to plan and supervise the animation in training films.

The article describes the planning, construction, growth, and instructional presentation of the animated film. In the first productions, animation was used only to clarify charts and diagrams and all picture technique was eliminated. But it was soon discovered that this method of presentation was too dull to be effective, so some picture technique had to be put back into the product. The ideas had to be made dramatic and exciting enough that the men would want to learn about them. It was found that repetition of the main points in the training film from a cartoon standpoint made those points more forceful, and occasional injections of cartoon sequences, whether for humor or mere relaxation, eliminated mental fatigue and its accompanying blind spots for the retention of facts. Within a year, the diagrammatic film had "grown up." It was being used in a variety of different ways, each use calling for a different technique in its presentation, but the basis for all later refinement had been achieved.

While the units in the service had been working on the problem of the diagrammatic film, the larger studios had been filling Government orders, many of which specified character animation. The value of this type of production was recognized quickly and character animation made its entrance into the straight training film. Because of restrictions on time, money and personnel, the possibilities of the cartoon could not be fully experimented but the production unit of the Air Forces felt it could be used to great advantage: (1) in diagrams; (2) to provide humor as "lessons learned with a laugh are seldom forgotten," (3) to give interest and freshness to ideas so old and well-known they are virtually forgotten, (4) to achieve a point more directly through caricature and satire, (5) to stimulate imagination, through fantasy, to a fuller grasp of new ideas.

"It is still too early either to give a complete appraisal or to establish rules for the use of the animated cartoon in training films," declares the writer. "We are convinced that its potential powers have not yet been realized . . . In spite of the growth that has been brought about by the war and its vast training program, it will be the postwar era that will bring fullest realization of these potentialities." He predicts a small-scale production of educational films using animation after the war, but these necessarily will be low-budget pictures, limited in scope, until a market for them has been established. The larger studios, he reports, believe that enough educators already have become interested in this type of teaching film that a program of major proportions will be started very soon but they admit that it would have to be done through endowment funds or with some kind of federal educational grant. Before there can be any large scale production in the postwar world, he also points out, there will have to be a certain amount of standardization in at least the basic subjects of the curriculum. "Perhaps the most effective developments will require some cooperative planning agency in which educator and animator will collaborate."

Mr. Thomas urges the production of motion pictures which will develop desirable attitudes and ideals. "In such an undertaking, the use of animation has some distinctive values. It can touch an abstract quality or idea with its creative magic and give it a warm personality. . . . The appeal of the characters of animation is international and universal. . . . Such films could bring a new era of enlightenment and common understanding."

Visual Aids Expedite Navy Training Program, by Lieutenant Francis W. Noel, in charge of the Bureau of Naval Personnel training aids utilization program, is concerned chiefly with the duties and responsibilities of the Navy's training personnel. A Joint Board of Review, comprised of officers from both the curriculum and the Training Aids Sections, appraises and selects suitable aids to implement training, after the curriculum has been planned. If suitable aids are not available, the Board recommends their production and counsels on the educational aspects involved. To provide the personnel designated as audio-visual utilization officers, the Navy has chosen leaders in the audio-visual field who meet the qualifications. Before being assigned to permanent duty, each officer is brought to the Bureau of Naval Personnel for orientation. When they leave the Bureau, they are free to develop a program meeting the particular training needs of the activity to which they are assigned. Their primary job is to work with training officers and instructors for the best utilization of the aids. This involves (1) familiarizing them with equipment and materials, (2) helping them to select and procure appropriate aids specific to their needs, (3) helping them to plan their use of the aids, (4) demonstrating good utili-

(Concluded on page 172)

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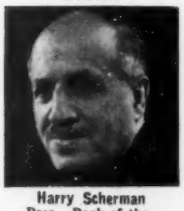

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zation procedures, and (5) assisting in appraising techniques and results.

The pattern of use recommended to all naval activities is outlined in the article. A staff of approximately one hundred utilization officers is helping instructors to put these techniques into practice. An evaluation study is now in progress in the Navy Department to discover the most successful methods of utilization and how audio-visual aids can be made even more effective. The results of this study should be important to the schools of America in the future.

Planning for the Navy's Training Films, by Reginald Bell, on leave from Stanford University to serve as educational specialist in the Training Film Branch of the Bureau of Aeronautics, emphasizes the extensive and intelligent planning that is involved in the production of aviation training aids. After making certain films which did not prove entirely satisfactory as the program developed, the Aviation Training Division recognized that the place to outline the needs of the field was not at staff headquarters in Washington, but at the school where instructors were being trained. "It was logical to assume that what tools were needed could be decided best by those who would use them." The locale of further planning, therefore, was shifted to the Flight Instructors School.

The commanding officer of the school reported the list of films needed to implement the flight training syllabus to the Training Command who requested that Aviation Training arrange for the films' production.. The superintendent of the Flight Instruction School and the staff flight training officer of the Training Command were appointed technical advisers of the films and consulted with production officers from the Training Film Branch of the Bureau of Aeronautics for the purpose of writing production outlines on the films. The films were then ready to go into production.

Slide Films in the Navy Training Program, by Jay D. Dresser, project officer in the Training Film Branch of the Photographic Division of the Bureau of Aeronautics, which supervises the production of all Navy training films, outlines steps followed in the production of each film. A project supervisor, who has had a background of film production work, an education officer, and a technical adviser, assigned by the organization requesting the film, plan the initial outline of each picture, these three officers determining the specific purpose of the film, its contents, and the best method of presentation.

In making a slidefilm, still photographs are made of the subject and mounted on cardboard frame cards. Printed titles and other art work are added to the photographs, which are then photographed in sequence on 35mm film.

Slidefilms have become an integral part of many Navy training courses, covering such subjects as office procedures, seamanship, elements of electricity, semaphore signaling, shipbuilding and maintenance and repair of aircraft, gunfire control equipment and other highly complicated machinery. Besides shortening the training periods and standardizing operations, use of the slidefilm makes continuous training possible. They can be forwarded to units in the field to keep men informed of new developments in equipment and tactics. The search for more effective means of visualizing subjects has led into the production of third-dimensional films, the psychological use of color and other advanced developments.

The Use of Nonphotographic Aids by the Navy, by William Exton, Jr., in charge of planning and production in the Training Aids Section, Bureau of Naval Personnel, reviews the extensive list of nonphotographic aids—two-dimensional and three-dimensional—which have contributed substantially to the Navy's training program. An outstanding example of graphic media is the set of 560 charts illustrating the Diesel engineering training curriculum, which have been hailed by educators and manufacturers as a notable contribution to the progress of technical illustration. This elaborate project involved exhaustive planning and an extensive production program. Posters are made to illustrate procedures. One of these, dealing with the bowline, has enabled persons who had never before seen a bowline, to tie it correctly in less than one minute. As with the films, these training aids are the product of careful, collaborative thought by a number of qualified individuals.

Three-dimensional aids are employed to simulate an actual object or item of material. One of the devices in this category is a small cardboard blinker for the training of signalmen, manufactured at a cost of 3c apiece. Another aid is the "mock-up," which is an enlarged reproduction, contrastingly colored, of equipment parts.

In developing training aids the Navy has pioneered beyond civilian precedent, and the writer expresses the hope that valuable lessons will be learned by the educational world from the Navy's experience which will result in substantial benefits to the standards and effectiveness of civilian training in the years to come.

Learning Through the Senses—Leland S. March, Principal Westwood High School— *New Jersey Educational Review* 17: 162 March, 1944.

A short but pointed article to remind teachers that facts taught in a dynamic manner are better learned and develop better attitudes in the learner. Audio-visual aids, when properly used, provide a very effective learning situation. By comparison traditional classroom techniques with tepid stimuli and monotonous responses seem outdated.

Storage Problems in Audio-Visual Aids

(*Concluded from page* 160)

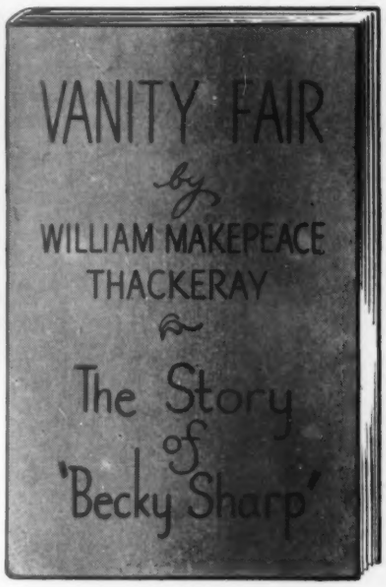
flat or stood in a corner; their unwieldiness increases if they are to be used frequently. Then too, if an instructor gave a quiz the charts had to be turned over so that wandering eyes could not see the answers. The very aids which helped at one time were sources of distraction at other times.

The author, having visited the Armored Force School at Fort Knox, Kentucky, had the answer. That excellent school had overcome the same problem by use of holders similar to those illustrated. These simple display racks have counter weights which pull any desired chart from the well in an instant. When the instructor has finished with the chart, it can be slid back with little effort. The frames can, of course, be used anew when the charts are changed. Since plywood was used in construction with inch pine braces, their weight is not a burden. Casters can be used with these racks and they can be moved from room to room with ease. Overall dimensions of the holder are sixty-eight inches by eighty-four inches by eighteen inches.

These problems of storage are small but unless solved satisfactorily they prevent a visual aids program from doing its part effectively. If the ideas are adaptable to your situation, don't hesitate to use them. They are merely improved instruments in hands working for victory.

Scene from TOM SAWYER

From PRISONER OF ZENDA



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•

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SCHOOL MADE MOTION PICTURES

HARDY R. FINCH, Editor
Head of the English Department
Greenwich High School, Greenwich, Conn.

With a question box on the making of school film productions, conducted by
DAVID SCHNEIDER
Evander Childs High School, New York City

"Fit to Live and Fit to Fight"

TO show what some schools are doing to prepare students for the strenuous life of today, a motion picture of four reels, *Fit to Live and Fit to Fight,* has been produced by the Bureau of Visual Instruction of the University of Iowa Extension Division, under sponsorship of the Iowa State Department of Public Instruction. It was filmed by John Hedges, Acting Director of the Bureau. A report of the film written by Eric C. Wilson, Editor, University of Iowa News Service, follows:

"This 16mm. film, now being distributed, was made in May, 1943, in thirteen representative Iowa high schools, and is designed as an honest sampling of the physical education program in such schools.

"It is pointed out that this sampling of a program does not necessarily represent the *best* program that might be done in high schools but is what is *actually* being carried on. The program is a good one and one which is suggestive as to what can be done in many schools.

"All scenes are unrehearsed and only physical education activities are depicted. No pictures were made of the competitive sports program, on the theory that there is much more familiarity with this interscholastic program than with the new type of physical education work. It is expected, however, that sports sequences will later be included and that a sound track will be added.

"Thirteen Iowa schools cooperated in the project. These were Fairfield, Keokuk, New London, Burlington, Ottumwa, Centerville, Mt. Ayr, Creston, East and West Waterloo, Boone and North and East Des Moines.

"In the narrative script for the film, written by Prof. Charles H. McCloy, Research Professor of Anthropometry and Physical Education at the University of Iowa, he says, the program needs to be regular and the time allotment should be adequate so that the effects will be cumulative. The exercise must be progressively more strenuous in order to insure that the pupils develop sufficient strength and endurance and speed to do better the tasks of each day, to carry through the work of the day and evening without fatigue, and to develop a reserve of strength and energy for emergency tasks of our time.'"

"Let us not, however, as we look at this picture, think only of the activities of a physical education program. The activities simply are a means of insuring that the boys and girls will be healthy and intellectually and emotionally well-adjusted."

The picture includes scenes of work for boys and girls such as guerrilla forms of combat, calisthenics, boxing, obstacle racing, rope-skipping, tumbling, dancing, swimming, track and field events, and games in the gymnasium.

Consultants for the film, in addition to Prof. McCloy, were: Dr. Paul W. Brechler, Instructor in Physical Education for Men and Head of Physical Education for boys at University of Iowa and University High School; Dr. Elizabeth Halsey, Head of the Department of Physical Education for Women; Miss Ella Small, Assistant Professor in the Department of Physical Education for Women, both of the University of Iowa; and H. J. Steffey, Supervisor in the Iowa State Department of Public Instruction.

(*Concluded on page* 176)

(Left) Scaling the wall of an obstacle course.

(Below) An obstacle course hazard.

(Navy photos)

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QUESTION BOX ON SCHOOL FILM PRODUCTION

Question: I would like to organize a motion picture production club in our junior high school. (1) What is the best way to start? (2) What could be considered the minimum essential equipment? (3) How can such project be financed? (4) Commensurate with the abilities and interests of junior high school students, what film subjects shall we produce?

Answer: Since there is no one set way to start a motion picture production project, it is suggested that the mere announcement of the planned organization of such a club during an assembly program, in the school paper, or through formal notices sent to each class, would bring more than the maximum number of students needed for the efficient running of your activity. Also you can take advantage of the psychological principle, "strike while the iron is hot", by timing the start of the project so as to make immediate application of the lessons on light and photography just when your general science classes have reached the highest pitch of enthusiasm for those topics. I haven't found a class, yet, that didn't bubble over with excitement and activity whenever pinhole and other cameras and their accessories were put to practical use in the classroom. The important thing here is to keep these flames of enthusiasm fanned. Soon enough every charter member will become a torchbearer for future additions to your club.

Once the club is organized, committees can be formed to study and become expert in the use of the camera, lighting, properties, script, art, and editing. Each group, in turn, can teach the others all the tricks, old and new, of its specialty. A collection of books, pamphlets, prepared lectures and slides should be available at all times for reference and research. A great deal of this material may be obtained on loan basis or free from the manufacturers or distributors of photographic equipment. Many students will want to contribute some of their own materials to build up such a library of information.

As far as equipment is concerned, the following may constitute the list of minimum essentials: 1 motion picture camera, preferably 16 millimeter, having a dismountable lens at least F 3.5 opening; 1 tripod; 3 reflectors, preferably clamp-on type; 3 or more photoflood lamps, number 2; 1 yellow filter; 4 or 5 rolls of black and white film, 100 foot lengths; 1 reel to hold 400 feet of film; 1 can to hold 400 foot reel; 1 splicing set; 2 or 3 extension cords, rubber insulated; 2 triple sockets.

A few words about the equipment: Notice that the camera recommended is the 16 mm. variety. The reason for that is that your school probably possesses one or more 16mm. projectors on which you will most likely run your films. The removable type of lens is suggested because some day you may want to add wide angle, telephoto or faster lenses.

No matter how confident one may feel about his ability to hold the camera steady, the fact that more than one person will be using that instrument demands that the camera rest on a firm tripod to insure sharp, level pictures.

Clamp-on reflectors are easier to handle, take less time to set up, and can be tilted at the proper angle just as well as the more expensive, cumbersome types. Whenever you have to use more than three number 2 lamps be sure to check the amperage of your fuse. The ordinary number 2 photoflood draws 4.4 amperes. The average house or schoolroom fuse carries 15 amperes—just enough for three of those lamps. Of course it's wiser to use as many different outlets as possible.

The yellow filter is an important accessory for outdoor filming, especially for distant shots with sky and clouds for background.

Black and white film is best for beginners, since errors in exposures are compensated to some degree by most processing laboratories. No doubt an exposure meter is a good investment, if obtainable these days. However one can get pretty accurate results by following carefully the printed instructions on exposure which come with every roll of film.

As for financing such project your best bet is to throw this problem right into the laps of your enthusiastic club-members. I am sure that, among the suggestions you will get, will be any or all of the following:

1. Appropriation of funds by the school General Organization.
2. Put on school plays, dances or movies, charging admission.
3. Seek assistance from parents association.
4. Gifts from graduating classes.
5. (later on) Charge few cents admission fee to see club produced films.

Film subjects that will have the most appeal to the junior high school students are films in which they themselves play the leading parts. Your first film will probably be a kind of public relations film—a subject in which students are displayed at their best, the daily school routine. If you want to show action, not merely posing, be sure to photograph them in subject classes where activities are in full swing—the gymnasium, the swimming pool, the athletic field, shops, laboratories and domestic science rooms. After that usually comes a "March of Time" or School Newsreel. From then on your students may want to put on playlets, but again make sure that there is plenty of action, not mere lip motion. Finally you will reach the stage when you will become surfeited with routine subjects. You will then enter the phase of producing instructional films—films that show the how and why of things, proper ways of swimming, life saving, carving a piece of wood in the shop, yes, even carving a turkey (if you can get one).

D. S.

The First Fifty Years

AS THIS issue appears the theatrical motion picture industry embarks upon a semi-centennial year of celebration to commemorate the opening, April 14, 1894, at the Holland Brothers Kinematoscope Parlor in New York, of the first film show in the world. Residents of the non-theatrical field of motion pictures may well join heartily in the hosannas. The 1894 demonstration, while involving some simple vaudeville turns in subject matter, derived no importance from them; the entire significance lay in an educational proof that photographic living pictures were possible and practicable.

But quite apart from any non-theatrical distinction, those who are disposed to draw that discriminating line may still celebrate the anniversary in fine fraternal spirit for, without a sizeable, matured theatrical film industry, the non-theatrical side could not possibly have attained in the same period its present stature, and it would quite certainly now be without its efficient existing technical equipment. Moreover, the non-theatrical and theatrical growths have identities in the sap, as in the roots, bark and branches of the same tree.

The pseudo-scientific analyses of animal movements, made by the singular Edward Muybridge in the late '70s and '80s, were educational items produced with photographic cameras before Edison invented his Kinetoscope, and were, indeed, his acknowledged inspiration; but their development to a useful application was carried through wholly by the commercial interest of Edison and his associates in amusement aspects. The first great supply of school films was organized by Charles Urban out of his theatrical productions in England and France about 1903; the first notable attempt to introduce motion pictures into American schools as classroom apparatus, in 1910, came with George Kleine's offer of more than a thousand selected theatrical reels; the long familiar Pathe productions were originally theatrical; the Bray subjects were nearly all theatrical first; the Pathescope Library, the Victor Animatograph Library and many more well known collections have stemmed from theatrical features, newsreels and screen "magazines." The best training films of present global war are being produced by men and women experienced in theatrical techniques and expecting at the end of the duration to return to studio positions, said techniques including arrested and accelerated screen motions and the general magic of screen animation, with the theatrical Walt Disney as chief practitioner.

As the "golden wedding" year goes on there will inevitably be many theatrical observances, and there will be point (within the modest limits of wartime economies) in having the non-theatrical field organize its own particular celebrations, too, if only to remind those who hold the large brass keys to visual instruction that there has accumulated for their endeavors a respectable and even impressive tradition. Upon the forgotten pioneer efforts which they would thus uncover, they might proceed into the latter half of the

(*Concluded on page* 180)

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NEW FILMS OF THE MONTH

As They Look to A Teacher Committee

L. C. LARSON, Editor
Instructor in School of Education
Consultant in Audio-Visual Aids
Indiana University, Bloomington

Assisted by CAROLYN GUSS and VIOLET COTTINGHAM
Extension Division
Indiana University, Bloomington

The Dutch Tradition

(Brandon Films, Inc., 1600 Broadway, New York 19, New York) 27 minutes, 16mm, sound. Produced by the Netherlands Information Bureau and the National Film Board of Canada. Sale price $22.74. Apply to distributor or Motion Picture Bureau of the Office of War Information for rental sources.

Introductory scenes show the familiar tulips, windmills, and wooden shoes of Holland. The film then passes from these familiar characteristics and portrays the fundamentals of Dutch moral strength and the traditional persistency in united effort for mutual progress through mutual endeavor. It shows that the emigrants from Holland to Michigan have influenced American ideals through their industry, craftsmanship, and high spiritual standards. Through their unflagging devotion to a common cause the Dutch drained the Zuyder Zee and thus created new farmlands to meet the needs of an increasing population.

Later when the Nazis invaded Holland, whose Hague had been the center of international arbitration, the Dutch opened their canals to flood the Nazis, who circumvented this tactic by use of air-borne troops. In the same spirit they frustrated Japanese attempts at negotiating for the wealth of the Indies and even before Pearl Harbor declared war on Japan. Apparently their indomitable determination has not been thwarted by the defeat of their small Navy and Air Force which was no match for years of Japanese armament.

The Dutch colonial policy of development in control of the Netherlands East Indies is shown as industry and education are introduced and the wealth of the islands is preserved rather than exploited. Likewise in the Dutch West Indies, the natives are free to develop their country and to contribute to the Allies oil refining and bauxite for planes.

The unyielding prosecution of war against aggression is shown as the Netherlands people who have escaped from Holland are active all over the globe—Dutch flyers train in the United States to return to Pacific bases, Dutch seamen are active in the Allied Merchant Navy, and the Dutch Underground helps direct Allied planes to their targets.

The film concludes as the commentator states that the Dutch are following their Queen in a tradition of stubborn resistance to achieve the Netherlands Commonwealth in which they will work together as they are working together now for total victory.

Committee Appraisal: A kaleidoscopic treatment of the people of Holland and the Indies which provides a background for better understanding of the Netherlands and its international relations. Because the film covers many facets of the subject, some topics are not fully developed and require supplementary treatment by the teacher or leader. Suitable for use by classes in geography, commerce, and social studies, and by adult groups interested in the role Holland and the Indies are playing in the present war.

This monthly page of reviews is conducted for the benefit of educational film producers and users alike. The comments and criticisms of both are cordially invited.

Producers wishing to have new films reviewed on this page should write L. C. Larson, Indiana University, Bloomington, Indiana, giving details as to length, content, date on which the film was issued, basis of availability, prices, producer and distributor. They will be informed of the first open date when the Teacher Committee will review the films. The only cost to producers for the service is the cost of transporting the prints to and from Bloomington. *This Cost Must Be Borne By The Producers.*

Basic Typing Methods, Part I.

(Castle Films, 30 Rockefeller Plaza, New York 20, New York) 35 minutes, 16mm. sound. Sale price $23.76. Produced by the Bureau of Aeronautics for the Division of Personnel, Supervision and Management—Navy Department. Apply to producer for rental sources.

The film opens with a short historical sketch of the typewriter from 1868 to the present time. Various machines that are being used now are shown and their differences pointed out.

Miss Lenora Fenton, expert typist, demonstrates and explains the principles of correct typing. The importance of good posture at the machine is stressed, and the position of body, fingers, hands, wrists, and arms is shown. Miss Fenton demonstrates the fundamentals of the keyboard and proper technique of finger stroking and shows contrast between the good and bad. Exercises to develop finger precision and agility are given. An explanation is given of the use of the tabular key, backspace, line space operator, paper guide, paper bail, and various other parts of the machine. Method of inserting, adjusting, and removing paper and carbon packs from machine is shown.

The film closes with the admonishment that speed in typing comes with "intelligent and purposeful practice."

Committee Appraisal: One of a series of eight office practice films produced by the Bureau of Aeronautics. Other titles are *Maintenance of Office Machines; Basic Typing Machine Operations, Part II; Advanced Typing Shortcuts, Part I; Advanced Typing Duplicating and Manuscript, Part II; Machine Transcription, Machine Operation, Part I; Machine Transcription Trans. Tech., Part II; Take a Letter, Please; How to Dictate.* Teachers of commerce, both on the secondary and adult level, should find these films valuable aids in teaching typing and shorthand skills. The committee felt that teachers might criticize the length of the films and the inclusion of many details.

Fundamentals of Diet

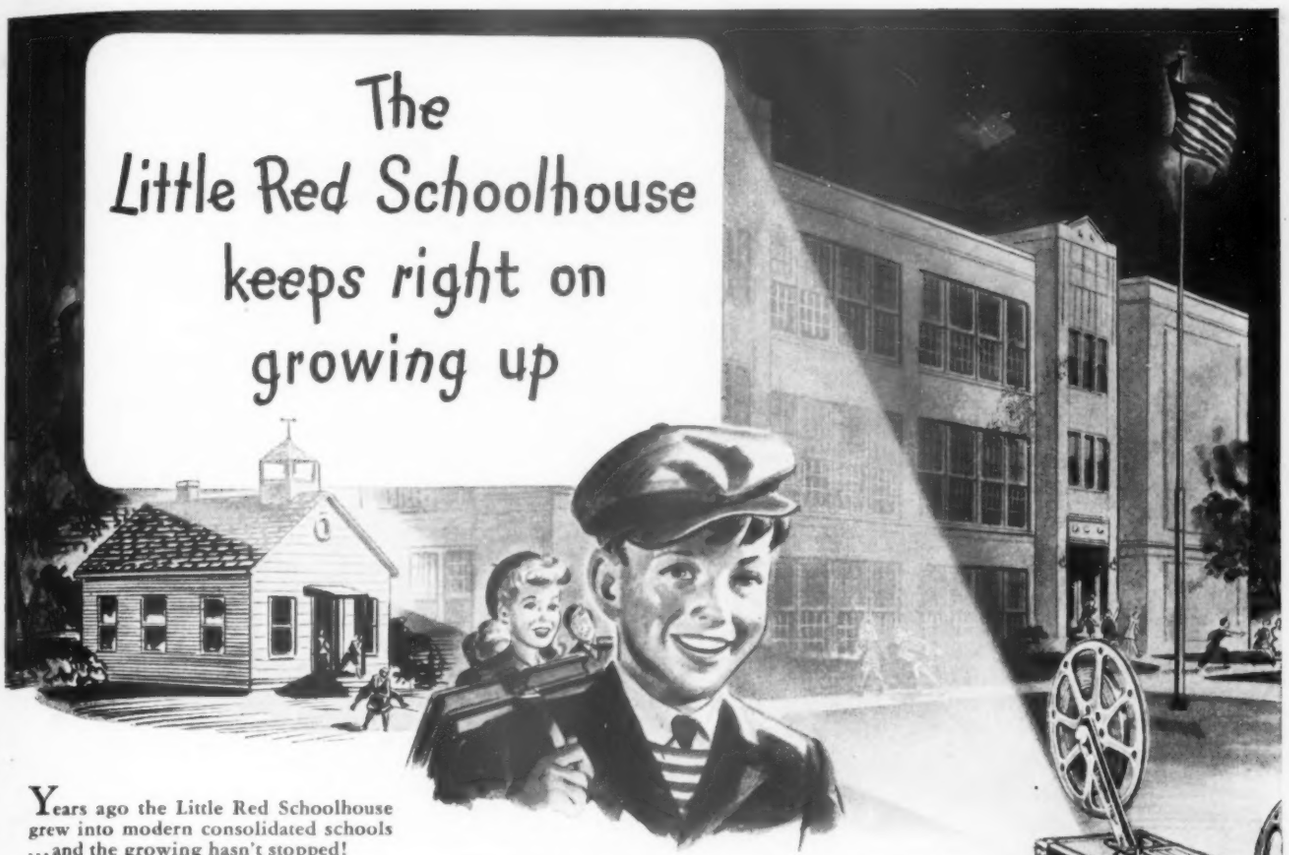
(Erpi Classroom Films, Inc., 1841 Broadway, New York City) 11 minutes, 16mm. sound. Sale price $50.00 less 10% educational discount. Apply to producer for rental sources. Discussion guide available.

The introduction divides animals into three classes in respect to their food habits—carnivorous, herbiverous, and omniverous. After man is identified with the omniverous group, the classes of foods which he has learned to eat are then shown. Emphasis is placed upon the fact that many of these foods nature has provided for her young, both in plants and in animals.

Consideration is next given the special dietary factors that must be furnished by the diet: such as energy, protein, mineral nutrients, and vitamins, which are needed to build and repair muscle and other tissues, to build bones and teeth, to provide for growth, and to keep the body machine in good working order. Pictures showing children carrying out feeding experiments as class projects indicate the results of the lack of diet and vitamin deficiencies such as the need for vitamin C to pre-

(*Concluded on page* 180)

The Little Red Schoolhouse keeps right on growing up



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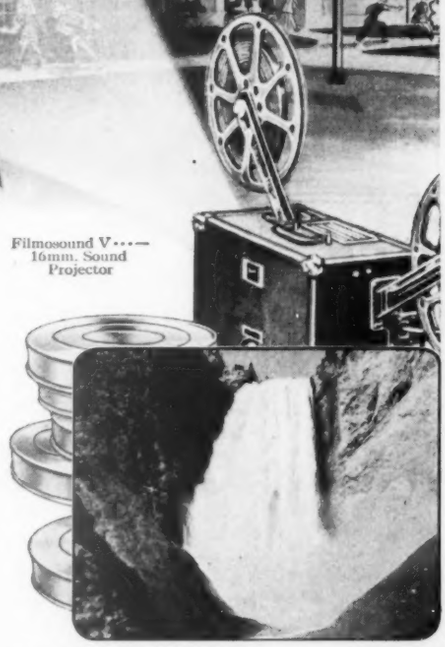

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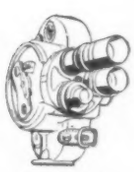
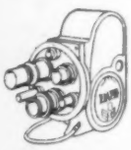


Filmo 70DA 16mm. Camera



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***HERE WE GO AGAIN (RKO)**
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***GET HEP TO LOVE (Universal)**
Gloria Jean, Donald O'Connor, Jane Frazee, Robert Paige, the Jivin' Jacks and Jills.

Other Outstanding Features include:

*** EAGLE SQUADRON (Universal)**
*** MY FAVORITE SPY (RKO)**
*** BETWEEN US GIRLS (Universal)**
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vent scurvy which is illustrated by a simple feeding experiment with guinea pigs.

The major classes of foods in an ideal diet and their special contribution to body welfare are portrayed. The film divides foods into the seven groups accepted by The Nutrition Office in Washington. The groupings are presented pictorially by showing many foods so classified, and then individual items being selected to emphasize the idea of an intelligent selection actually being made.

The film ends with suggestions for substituting for foods which are not available—if fresh milk cannot be secured, if wholewheat bread is not available, if eggs or meat are too expensive or are not available, if fresh fruits cannot be purchased or if butter is not available.

Committee Appraisal: Treats the groups of foods needed in the daily diet, the functions of the various groups, the wise selection of foods, and the possibility of substituting. As pointed out by the educational author, Dr. George R. Cowgill, Yale University School of Medicine, "Authorities can differ as to just how many groups of food one should consider from a practical standpoint; however this need not lead to rejection of the basic idea of such a classification as a means of facilitating the practical application of our knowledge of foods and food values." Student and adult groups interested in nutrition should find this film helpful in presenting an over-view of the subject.

Distillation

(British Information Services, 30 Rockefeller Plaza, New York City 20) 13 minutes, 16mm. sound. Sale price $14.00. Apply to producer for rental sources.

Through laboratory demonstration, this film explains the method of separating the various products found in crude oil. Much of the explanation is done by means of animated diagrams. Atoms of hydrogen and carbon are represented by white and dark balls. Each carbon atom has four arms; each hydrogen atom has one arm, thus representing the valence of each. A combination of atoms is known as a molecule. Diagrams of a few of the possible combinations of carbon and hydrogen atoms are represented by white and black balls forming chains, rings, and unions of both.

Crude oil is composed of many different kinds of molecules. In order to secure the different products, it is necessary to separate each mixture. Since liquids have different boiling points, the mixtures are separated by distillation.

To explain distillation a clear liquid is mixed with a dark liquid to which some crystals have been added. Heat is applied. At one temperature, the clear liquid evaporates and is condensed. As the temperature rises, the dark liquid boils, evaporates, and is condensed. Only the crystals of the original mixture are left in the container.

Distillation is used to separate the mixture of hydrocarbons in crude oil. The suits in a deck of cards are used to represent the groups of hydrocarbons in crude oil. Each group is called a fraction. The object of distillation is to separate one fraction from the other. A diagram of the old-fashioned bench-still is shown; oil flows from one still to the next as the heat under each still is increased. The vapors formed at the various temperatures are condensed by cold water, thus isolating each compound from the crude oil mixture.

A picture of a modern fractionating tower is shown and a diagram explains the construction of the tower. The crude oil is heated; the vapors rise in the fractionating tower and the residue is drawn off. As the vapors ascend through more and more intense temperatures, each product is condensed at its particular boiling point and the product is removed. All the products are shown as they are ready for the consumer.

Committee Appraisal: An excellent use of animated diagrams to explain the process of distillation of crude oil. Should be helpful to teachers of chemistry and vocational training in adding concreteness to an abstract subject.

The First Fifty Years

(*Concluded from page* 177)

century with more assurance and perhaps with some saving in duplicating efforts.

Charles Urban's theatrical education department in 1903 was headed by Frank Percy Smith, a trained London school teacher; the George Kleine offer to the New York schools was sponsored by the People's Institute and encouraged by top officials in the metropolitan school system; Lincoln & Parker, of Worcester and Boston, who made their valiant fight to produce and to distribute films expressly for schools—a project extending the educational film enterprises of Thomas A. Edison's theatrical company—were men who both had been trained and experienced in pedagogy; and Harley Clarke's foundation of the Society for Visual Education in the '20s fairly scintillated with internationally known names of leading educators.

Details concerning these and other pertinent facts have been given in the non-theatrical history which has been serialized in the pages of this magazine since September, 1938.

SLIDES 35 mm. FILM

General Science.....11 rolls
Principles of Physics..... 7 rolls
Principles of Chemistry..... 8 rolls
Fundamentals of Biology..... 8 rolls

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VISUAL SCIENCES, Box 284E **Suffern, New York**

DVI (Zone II) New York Meeting

WHEN the annual convention of the American Association of School Administrators was rearranged to provide for sectional rather than national meetings, in view of the exigencies of transportation and hotel space, the Department of Visual Instruction program was arranged on the same basis. In New York City, on the afternoon of February 23, a timely six-unit program on the theme VISUAL EDUCATION TODAY AND TOMORROW was presided over by Dr. E. Winifred Crawford, DVI (Zone II) president. For the first time in her many years of school service, it was her pleasure to introduce her own superintendent of schools, Dr. A. L. Threlkeld, of Montclair, New Jersey. He made an interesting, favorable appraisal of the contributions and future of visual aids.

Three of the units were excellently illustrated by means of talking motion pictures. Lt. Lyle Stewart, of the Audio-Visual Training section in the United States Navy, laid particular emphasis on the utilization of visual aids in the armed forces. Short sections from three widely different sound films were given in connection with his paper, and the layout of his department was shown by means of projected still pictures.

Floyde E. Brooker, of the U. S. Office of Education, put forward a whole series of challenging questions that grow out of the tremendous war-borne expansion of the use of visual aids for education at all levels and in all subject matter areas. His talk was illustrated by the projection of a short section of a new USOE release, "THE SLIDE RULE."

Julien Bryan, producer for the Coordinator of Inter-American Affairs, discussed some of his experiences in implementing the good neighbor policy with a movie camera, and showed two excellent new sound films, "MONTEVIDEO FAMILY" and "HIGH PLANE."

L. C. Larson, of the University of Indiana, reported on current status of 16mm. distribution at the OWI, and on the activities of the "National 16mm. Advisory and Policy Committee". Dr. Lucile Allard, president of the Metropolitan New York Branch of the DVI, summarized the discussions.

In attendance and interest, the sectional meeting equaled the best of the national meetings held in the past. An excellent informal dinner was held at the Town Hall Club. It was presided over by Miss Rita Hochheimer, and was featured by the introduction of prominent visual aid workers from all parts of the country. A preview of the new Warner theatrical feature, "ADVENTURES OF MARK TWAIN" concluded the program.

The commercial exhibits, both at New York and Chicago, were of necessity limited in space and in display budget. Nevertheless all of the well-known names, and some new ones, were well represented.

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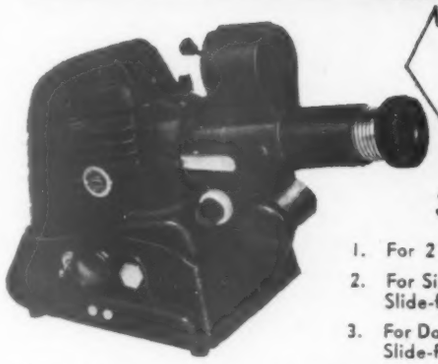

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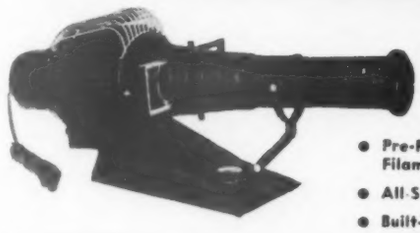

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News and

Eastman Classroom Films to University of Chicago

President Robert M. Hutchins announced on April 12th that the University of Chicago has accepted a gift of the Eastman Classroom Films, with its vast library of silent educational movies, from the Eastman Kodak Company. The acquisition comprises some 300 reels of film for exclusive classroom use and represents an investment of more than a million dollars. The new library will be combined with the 200-reel sound film collection of Erpi Classroom Films, recently acquired by the University. Like the Erpi set, the Eastman films will be distributed by Encyclopaedia Britannica Films, Inc., subsidiary of Encyclopaedia Britannica, Inc.

In announcing the latest gift, Mr. Hutchins stated: "Britannica Films is now in such a commanding position in the field as to have a clear responsibility for the continued development and expansion of this important educational tool." Wm. B. Benton, chairman of the Board of Encyclopaedia Britannica, Inc. and vice-president of the University of Chicago said: "With Erpi Classroom Films and now the Eastman films, Encyclopaedia Britannica Films, Inc., is the distributor of the only library of films designed for classroom use. The University now is in an ideal position to take leadership in the entire area of visual education." Mr. Benton added that plans are being made for expanding facilities and that Stephen M. Corey, professor of education psychology at the University, is on leave for full time work on production plans.

Commission Formed to Study Educational Film Needs

Dr. George F. Zook, president of the American Council on Education, has announced the formation of a Commission on Motion Pictures in Education, consisting of six educators, whose duty it will be to make a survey of the uses of film in schools and colleges and to plan for the production of films in fields of study where new educational films are needed. Particular attention will be given at first to a series of films related to post-war reconstruction.

This project is being financed by a substantial grant from eight major Hollywood producers, namely, Columbia, M-G-M, Paramount, RKO, 20th Century-Fox, United Artists, Universal and Warner Brothers. Members of the Commission are: Mark A. May, director of the Institute of Human Relations, Yale University, chairman; George S. Counts, director of the division of foundations of education, Teachers College, Columbia University; Edmund E. Day, president of Cornell University; Willard E. Givens, executive secretary of the National Education Association; Monsignor George Johnson, general secretary of the National Catholic Education Association; and Dr. George F. Zook.

A preliminary survey on the needs for new motion picture material, and other studies in the evaluation of existing educational films, have been made by the American Council on Education. These studies, Dr. Zook declared, indicate great need for new films, par-

Notes

ticularly at the elementary school level and at all levels in English, history, guidance and vocational areas.

The Commission plans to set up a national board of advisory consultants, composed of specialists in the various teaching and film fields. An office and staff will be established for the carrying out of this study.

New WPB Priority Regulations on Photographic Equipment

The March issue of NAVED News carries a report on Priority Interpretations, by Richard F. O'Neil, Visual Education Service, Inc., which sets forth some of the most important changes in the latest amendment to L-267.

According to the new Regulation, restrictions are removed on delivery from manufacturer of any item of photographic equipment of $10.00 or less (including Federal Tax), and on delivery or repair or replacement parts.

Manufacturers may deliver photographic equipment and accessories: (1) To fill a nonpreferred order bearing an AA-5 or higher rating; (2) as authorized by the nearest Field Office of WPB on 1319 Application.

Nearly all organized commercial business operates under CMP Reg. 5 which, within its ceiling of $500, authorizes ratings from AA-1 to AA-5 for Maintenance, Repair and Operation (MRO). This means that all established business may obtain any item of photo equipment (except prohibited box cameras and 8mm items) priced above $10 and below $500, on their MRO ratings, without filing a 1319 application.

Nearly all Institutions—Governmental, Educational and Religious, Hospitals, Welfare Organizations, and other nonprofit associations—operate under CMP Reg. 5A, which still has a $100 ceiling, and also authorizes MRO ratings from AA-1 to AA-5. Such Institutions, however, must still apply on the new 1319 forms for all items priced above $100, such form to be mailed to the nearest Field Office of WPB.

Rare Pictures Telecast

New York's estimated television audience of 40,000 had a photographic peek at modes and manners of the past when some rare photographs were telecast for the first time February 9 at Station W2XWV, New York, during the Storm Agency Show, a weekly television performance. Dr. Otto Bettmann exhibited and commented upon the slides, which represented some of the choicest photos in his vast collection. Dr. Bettmann has achieved considerable prominence since 1936 when he entered this country from Germany laden with the world's largest collection of photographs depicting the progress of civilization. He had amassed his array of pictures, totaling about 10,000, while head of the Rare Book Department of the Berlin State Art Library. The collection is so thoroughly indexed by Dr. Bettmann that a picture on any subject can be located quickly.

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Here are some of the outstanding dramatic, musical and comedy successes pronounced by leading motion picture critics as

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. . . the comedy team voted America's number one funny men in
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Current Film News

■ Castle Films, 30 Rockefeller Plaza, New York City, have prepared the following two companion reels picturing recent sensational action in the battle of the Pacific:

Salute to the Navy—a stirring tribute to America's navy and to the men who are fighting the war on, under and above the Seven Seas. This film records the incredibly swift growth of the world's greatest navy, its traditions, training and gallantry, and reveals its power in thrilling battle scenes taken from the deck of a carrier during a raid in the Marshalls.

Yanks Invade Marshall Islands—an exciting, tense combat picture filmed under fire by daring marine, army and navy cameramen from land, sea and sky. Heavy naval bombardment of Jap strongholds and sweeping onslaughts of assault craft result in another mid-Pacific American victory at Kwajalein and Roi.

■ Bell & Howell Company, 1801 Larchment Ave., Chicago, have acquired for their Filmosound Library the theatrical features:

Pot o' Gold—8 reels of light-hearted nonsense intermingled with hit tunes. Happy-go-lucky nephew of a rich manufacturer of health foods finds romance and adventure on the air waves. In the

cast are James Stewart, Paulette Goddard, Horace Heidt and Charles Winninger.

Who Done It? (Universal production)—a travesty on murder-mystery dramas with Abbott and Costello as amateur detectives.

Three Centuries of Massachusetts—a notable historical film, produced by Harvard University and narrated by Prof. Albert Bushnell Hart, has been sold to the Bell & Howell Filmosound Library. The film is at present eight reels in length, and will be cut down and re-edited by the new owners. Meanwhile the original eight-reel version continues to be available through the same source.

■ Pictorial Films, Inc., RKO Building, New York City, makes available this month 16mm sound prints of the fifth subject in the RKO series, *This Is America*, which they are distributing. Title of the April issue is:

Air Crew—the story, step-by-step,

of the transformation of a raw recruit into a flyer who proudly receives his wings on graduation day. The film presents a behind-the-scenes picture of the stiff training and studying program at the U. S. Naval Air Training Station in Jacksonville, Florida, where our pilots and crews receive the best training in the world.

■ Post Pictures Corporation, 723 Seventh Ave., New York City, announces the availability of another Hal Roach feature picture on 16mm sound, namely:

Topper Returns, which follows the further adventures of Topper, the amateur detective who turns strange happenings into outbursts of gaiety. Featured are Roland Young, Joan Blondell, Carole Landis, Dennis O'Keefe, Billie Burke, and Eddie (Rochester) Anderson.

The sixth edition of the Post Pictures catalogue is available on request by writing to that company.

■ British Information Services, 30 Rockefeller Plaza, New York, report many new 16mm sound subjects on Britain at War, including:

Letter from Ireland (22 min.)—a film letter describing the training, living conditions and recreations of American soldiers in Northern Ireland.

Cameramen at War (15 min.)—showing them in action and some of the famous scenes they have shot right in the forefront of the battle, armed only with cameras.

Up Periscope (21 min.)—a tense story of a British submarine on patrol in the North Sea. After successfully attacking an enemy ship, it dives and awaits the counter-attack.

Tank Patrol (37 min)—dramatized incident in the desert concerning a stranded tank crew. How they elude the enemy and rejoin the British.

Come Again (16mm.)—changes the war has wrought in British ways of living, as seen by three returning emigrants.

Nations Within a Nation (16 min.)—how the exiles of nine European nations, which now have recognized Governments in London, carry on their own national life and institutions.

■ Walter O. Gutlohn, Inc., 25 West 45th St., New York City, announce the release in 16mm sound of a feature production exposing Japanese treachery and contempt for western civilization. The film, acclaimed by many critics as "one of the ten best," is titled:

Hara Kiri—starring Charles Boyer, Merle Oberon and John Loder. The plot concerns a ruthless, inhuman Japanese war-lord and his downfall, and portrays the fanatical devotion of the Japanese for the ancient traditions of Nippon, no matter how barbaric. Pictured are some of the most spectacular naval battles ever filmed. The picture is available for rental and long term lease.

Two new one-reel films added to the Gutlohn educational library of 16mm sound short subjects are:

Fundamentals of Boxing—a detailed demonstration of every move, offensive and defensive, by Carl Siebert, veteran boxing instructor, and his students.

The Eight Parts of a Business Letter—showing how mail is handled, why letters are standardized as to form in business, the difference between social and business forms, the various parts of a letter from heading to signature, basic displays and arrangements of the parts. Every essential element of form is visualized.

■ Father Hubbard Educational Films, 188 W. Randolph St., Chicago, has just released in 16mm. sound, the feature film:

Mush You Malemutes—based on Father Hubbard's book of the same title. Filled with adventure, humor and human interest, the subject covers the dramatic trek through the Alaskan wilderness enroute to Aniakchak, described as the greatest active volcanic crater in the world. The crater is filmed in its breath-taking destruction immediately after its earth-shaking explosion. Alaskan life and scenery in the depth of frozen arctic nights and blooming summer beauty is vividly depicted.

■ The Princeton Film Center, Princeton, New Jersey, is booking 16mm, sound prints in full natural color of one of its latest releases titled:

Empire on Parade—a forty-minute film document of the immense resources of the Northwestern area of this country served by the Great Northern Railway—a vast section of the nation which is now supplying many of the essentials of war.

■ Westinghouse Electric & Manufacturing Co., 306 Fourth Ave., Pittsburgh, Pennsylvania, traces the 23-year history of broadcasting in its new film:

On the Air—The Story of Radio Broadcasting (28 min.)—16mm and 35mm sound. Scenes in the swift rise of the radio industry are re-enacted. Depicting the detailed operations of a typical broadcasting day, the film covers writing, scripting, rehearsal, timing, production and presentation of a broadcast. Next the technical side of broadcasting is shown. The picture predicts a rapid growth in the process of radio-photo transmission, and in the use of television and shortwave broadcasting.

The film is distributed free to schools, churches and associations by the Westinghouse School Service department.

■ Official Films, 625 Madison Ave., New York, have issued their latest "Sportbeam," covering

Big League Baseball—in which the big league players, and the specialized plays that have made them famous, pass in review in an entertaining and instructive manner. Batting, pitching, running, bunting, sliding, home-run and all the tricks of the diamond are demonstrated. The film is available in 8mm silent, and in 16mm silent and sound.

■ General Electric Company, through its Photolamp Division at Nela Park, Cleveland, Ohio, has produced an educational movie featuring the technical aspects of flash photography. The 3-reel film—available in 16mm and 35mm—is intended for immediate use by photographic schools of all branches of the military services. It is also designed to educate professional and amateur photographers on how better flash pictures may be taken.

Slow motion sequences permit the human eye to follow the swift action of various camera shutters, of the performance of popular flash bulbs, and of high-precision timings. This has been achieved through adroit use of extremely high speed motion picture photography. The film features the operations and characteristics of between-the-lens and focal plane shutters, various midget flash bulbs, and the relative merits of sundry reflectors—all with relation to one another. Detail action is shown through animation.

Prints of the film are handled by G.E. Lamp Department's district offices where arrangements may be made for showing the picture locally.

Among the Producers

Paul Thornton Named Director of RCA Educational Department

Appointment of Paul Thornton as director of the Educational Department of the RCA Victor Division has been announced by Robert Shannon, general manager of the Division. At the same time, Mr. Shannon announced that the Educational Department activities are now a part of the company's Advertising Service Department, under the supervision of the Advertising Director, Charles B. Brown.

The department which Mr. Thornton directs, with headquarters in Camden, N. J., was established in 1911 as a service for schools. It now assists teachers and school administrators in the selection and utilization of records, phonographs, radios, sound systems, movie projectors and other equipment which RCA makes available for schools. An important wartime service is that of providing radio and other technical information for pre-induction training programs.

Mr. Thornton joined RCA's Educational Department in 1940, and has served as assistant director for two years. Prior to 1940 he taught for 12 years in elementary schools, high schools and colleges in the Midwest and South. He also served for some time in a supervisory post with the State Department of Education in Louisiana. He received his B.S. degree from Kansas State Teachers College, Emporia, Kans., in 1928, and his master's degree from Northwestern University in 1936.

S.V.E. Slidefilm on Slide Binding

A new 33-frame slidefilm on the proper techniques for using the S. V. E. Slide Binder has been announced by the Society for Visual Education, Inc., 100 East Ohio Street, Chicago 11, Illinois. It will be furnished free to those in charge of the visual instruction departments or courses, and to others who are using the binders regularly.

The slidefilm presents the few common tools required for using this simple and safe binder—scissors, brushes, water container, blotter and soft cloth. Next is shown the proper steps in removing Kodachromes from their mounts for binding, followed by instructions for the proper cutting apart of double-frame prints for binding. The next sequence follows each step of the process of binding, to achieve the desired protection of the film from dust and moisture. The same procedure is followed for either double or single-frame slide mounting in the regular binder, except for the addition of the single-frame mask. This is also the procedure used to bind films of bantam size in the special bantam binders.

Further information concerning the new slidefilm and the S. V. E. binders will be furnished upon request.

C. C. Cooley Becomes Da-Lite Screen Vice-President

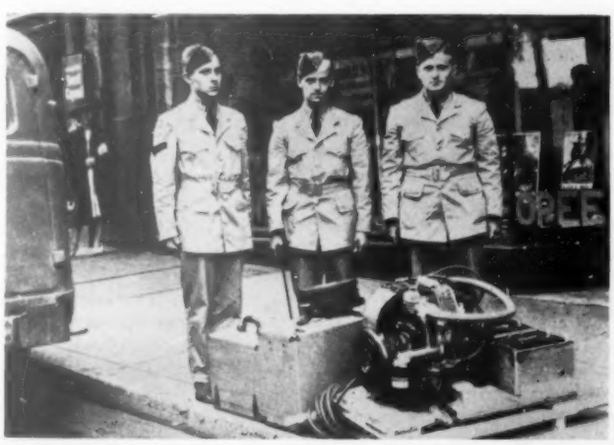
Mr. J. C. Heck, President of Da-Lite Screen Company, Inc., Chicago, announces the election of Mr. Chester C. Cooley as Vice President in charge of sales and advertising.

Mr. Cooley has been with the Da-Lite Screen Company for 18 years. He has had broad experience in both the production and sales departments and is thoroughly familiar not only with his company's products, but also with the needs of Da-Lite customers. Mr. Cooley is also Vice President of The Photographic Manufacturers and Distributors Association.

Recruiting Films "Get Their Man" in Canadian Wilds

News of what's happening in the War and Canada's share in the fighting is being brought to isolated sections of the North Woods and the Arctic regions by a traveling Victor 16mm sound motion picture unit of the Canadian National Film Board. Operated and transported by three members of the Canadian Armed Forces, this mobile unit is effectively aiding the recruiting efforts in regions which could not otherwise be reached with visual propaganda. The recruiting films use French or English sound tracks, depending on the language of their audience.

The run consists of a Victor 16mm Animatophone and Speaker, its own 100 watt generator power unit and a library of films.



Mobile Victor Sound Motion Picture Unit.

Wartime Uses of Filmosounds

Broadcasting with B & H 16mm sound equipment.

Thirty-two Royal Canadian Air Force stations in Canada each have a band—without the benefit of bandsmen and instruments! Soon, by means of motion picture film, all air force stations across Canada will have this same type of mechanized band music, played by the outstanding band of the RCAF for as long as forty-five continuous minutes. This is a further illustration of another wartime use of motion picture film—the broadcast of martial music on a Bell & Howell Filmosound for the entire regiment.

The Filmosound unit is demountable, and can be used to project motion pictures with sound accompaniment in barracks, doubles as a public address system, and is an over-all unit with entertainment and educational utilization. The current news is broadcast to the entire forces; the officer in charge can deliver his orders by means of the Filmosound public address systems; and route marches, ceremonial parades, drill ground training, and lectures now reach the boys in the RCAF via motion picture equipment.

Filmosound V Available for Essential Purposes

The Filmosound V, 16mm sound-on-film motion picture projector, is available at this time on priority for essential purposes according to prevailing government directives. This compact, sturdy, precision-built, easy-to-operate product of Bell & Howell engineering achievement is being used to project the sound movies that entertain and instruct our soldiers of today and educate our citizens of tomorrow. Until priority regulations are lifted, the limited supply of those Filmosounds must be restricted to sale to the armed forces, hospitals, and schools.

The latest edition of the Filmosound sales folder is available upon request from Bell & Howell Company, 1801 Larchmont Avenue, Chicago 13, and describes the features of the new B&H Filmosound V.

New Keystone Physics Units

A completely revised and enlarged Physics manual has been prepared by Harry N. Wheaton for the Keystone View Company, Meadville, Pennsylvania, to accompany their new series of physics slides. This manual emphasizes two fundamental courses urged by the War Department for particular attention in high schools—"The Fundamentals of Machines" and "The Fundamentals of Electricity." Both of these courses were worked out by the author in accordance with the outline proposed by the War Department. The manual also covers two other subjects, "The Fundamentals of Sound," and "The Fundamentals of Light."

The manual and series of slides have been carefully prepared and will be of permanent usefulness to schools, regardless of war needs. The manual alone sells for $1.00. It is furnished without charge when five or more units from the slide series are purchased.

Radiant Screen Plan for Post-War Placement of Service Men

Unusual enthusiasm from both service men and industry has greeted the inauguration of a soundly conceived post-war plan for assuring proper placement for men and women in the visual equipment and photographic field after they leave the U. S. armed forces. Developed by the Radiant Manufacturing Company, Chicago manufacturer of screens, this program is now in full swing and is bringing some surprising results. The specific object of the Radiant plan is to obtain the registration of all men and women who are engaged in visual training, film production and film distribution, or who had visual equipment experience before entering the armed forces so that those who wish to continue in this field after the war can be located.

Special registration cards for this purpose have been prepared by the Radiant Manufacturing Company and distributed at points where all types of training and entertainment films are stored and projected, and where equipment is serviced. These cards list the previous experience and background of each registrant, as well as the specific fields in which post-war interest is indicated.

These fields include the production and distribution of films and the sales, servicing, manufacturing, retail and wholesale distribution of projection equipment. Registration cards are beginning to pour in to Radiant headquarters. When the files are completed, the lists of these registrants will be sent to manufacturers, distributors and retailers in the visual training industry. Naturally, service men and women have indicated their sincere appreciation of this opportunity to prepare for their post-war future. Numerous expressions of approval have been received from commanding officers and executive personnel.

DeVry Honored

DeVry Corporation, 1111 Armitage Ave., pioneer manufacturers of motion picture sound equipment, has been awarded the signal honor of receiving a second white star for its ARMY-NAVY E Flag—denoting continued production excellence for the war effort on the part of its personnel.

In the letter of notification, C. C. Bloch, Admiral USN (Retd) Chairman Navy Board for Production Awards, advised President William C. DeVry that the additional white star, which the renewal of the "E" award adds to their Army-Navy "E" flags, "is the symbol of appreciation from our Armed Forces for your continued untiring effort and support so necessary for victory."

DeVry is the only concern in the United States to be thus honored for the manufacture of motion picture sound equipment and secret electronic training devices incorporating motion picture projection principles developed by DeVry's founder, the late Dr. Herman A. DeVry.

Bibliography Available

A Bibliography covering the subject of "The Use of Motion Pictures in Education during the Past Twenty Years" has just been completed by Charles R. Crakes, Visual Educational Consultant for the DeVry Corporation.

Titles of twenty-five books, articles, film directories, and periodicals offer a basic reference list for the study of administration and utilization practices in the field of audio-visual aids. Copies can be obtained without cost from the DeVry Corporation, 1111 Armitage Avenue, Chicago 14, Illinois.

New Eastman Aerial Camera

An aerial camera that will photograph from a height of 40,000 feet upwards, is now being produced by Eastman Kodak Company for Army use. To test the operation of the camera at temperatures to which it will be subjected—from forty-five to seventy degrees below zero—Eastman workers had to wear Arctic clothing, such as is used by the Air Force.

Roshon Moves Headquarters

The Russell C. Roshon Organization, 16mm sound motion picture distributors, has moved its headquarters office from Pittsburgh, Pa., to Suite 2200, RKO Bldg., New York City (20).

In line with its policy of expansion the company has also recently opened its sixteenth branch exchange in the Liberty Life Bldg., Charlotte, N. C.

The Roshon Organization are exclusive distributors of many Walt Disney cartoons in 16mm sound and a large number of Columbia features. The library also includes Westerns and other Hollywood features, serials and short subjects in 16mm sound.

Additional Valuable Literature —

"1000 AND ONE"—The Blue Book of Films

"1000 and ONE" The Blue Book of Non-Theatrical Films, published annually is famous in the field of visual instruction as the standard film reference, indispensable to film users in the educational field. The **CURRENT, NINETEENTH EDITION** lists and describes **over 5,000 films,** classified into 176 different subject groups (including large groups of entertainment subjects). A valuable feature is a complete alphabetical list of every film title in the directory. Other information includes designation of whether a film is available in 16mm, or 35mm, silent or sound, number of reels and sources distributing the films, with range of prices charged.

136 pp. Paper. Price **75c.** (**25c** to E. S. Subscribers)

FILM EVALUATION SUPPLEMENTS TO "1000 and ONE" under The National Film Evaluation Project

A new and unique service to the teaching field. Film Evaluations made by nation-wide Judging Committee of over 500 teachers after actual use of the films with classes.

Each Supplement consists of 50 standard-size library cards carrying detailed evaluations of 50 films, based on combined scores of 15 or more teachers on each film. Three Supplements have appeared to date. Another appears as soon as 50 more films attain their quota of 15 or more scores.

Price per Supplement—50 cards in carton, serially numbered 1 to 50, 51 to 100, 101 to 150, etc., with full explanations accompanying, 50 cents (postpaid if cash with order.)

THE AUDIO-VISUAL HANDBOOK (4th Edition) By Ellsworth C. Dent

Presents in convenient form, practical information for those interested in applying visual and audio-visual aids to instruction. The six chapters include discussions on "The Status of Visual Instruction," "Types of Visual Aids and Their Use," "Types of Audio-Visual Aids to Instruction," "Types of Sound Aids for Schools," "Organizing the Audio-Visual Service," "Source List of Materials and Equipment."

212 pp. Illus. Cloth. Price **$1.75**

AUDIO-VISUAL AIDS TO INSTRUCTION By Harry C McKown and Alvin B. Roberts

A practical volume which shows the teacher and administrator how to select, organize, and utilize audio-visual aids of all types, in all subjects, and at all levels, from kindergarten through the twelfth grade. Primary emphasis is on actual practice and every effort has been made to include specific information and advice which will be most helpful in the classroom. 384pp. Cloth. Illus. Price **$3.00**

PICTURE VALUES IN EDUCATION By Joseph J. Weber, Ph. D.

Presents in unusually interesting form the results of the extended investigations on the teaching values of the lantern slide and stereograph. 156 pp. Cloth. Illus. Price **$1.00**

(**67c** to E. S. subscribers)

AN ALTERNATIVE FOR REVOLUTION AND WAR By Albert E. Osborne.

A stimulating, wide-range view of the higher potentialities of visual instruction in promoting world harmony by a "more humanity-centered education." A pertinent reply to H. G. Well's dictum that the "future is a race between education and catastrophe." 124 pp. Cloth. Price **$1.25.**

EVALUATION OF STILL PICTURES FOR INSTRUCTIONAL USE. By Lelia Trolinger

A full presentation of the latest piece of research on determination of teaching values of pictures. Development of the Score Card and elaborate experiment in use of same. Full documentation, tabulation of results, and appendices. The latest, most complete and scholarly investigation of a problem in the visual teaching field that has long needed such a solution. 48 pp. Paper. Illus. Price **50c.**

PRODUCING SCHOOL MOVIES By Eleanor Child and Hardy R. Finch

Based on first-hand experiences of the authors and those of many other teachers and movie enthusiasts. Chapters are "Organization (of a Club); Choosing the Idea; The Scenario; Buying Equipment; Using the Equipment; Filming the Picture; Advanced Techniques; Final Preparation and Showing. A welcome book to those who want movie-making explained in simple terms. 151 pp. Paper. Illus. Price **$1.50.**

SELECTED FILMS FOR AMERICAN HISTORY AND PROBLEMS. By William H. Hartley

Part I gives directions for obtaining, evaluating and utilizing films. Part II comprises a fully annotated catalog of the most useful films for illustrating various aspects of American Civilization. Title of film, length, whether sound or silent, production date, producer, sale and rental price and grade level suitability, are given. Also synopsis of film content. Suggestions are offered concerning most effective application of the film to the teaching situation.

275 pp. Cloth. Price $2.25.

THE USE OF VISUAL AIDS IN TEACHING By Ella Callista Clark, Ph. D.

Brief, clear, concise, authoritative. An attractively printed manual of procedure for all visual aids in teaching, with stimulating suggestions for the inexperienced teachers as well as for the veteran.

24 pp. Paper. Illus. Price **25c.**

HOW TO MAKE HAND-MADE LANTERN SLIDES By G. E. Hamilton

24 pp. Paper. Price **10c.**

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A Trade Directory for the Visual Field

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Bailey Film Service (3)
1651 Cosmo St., Hollywood, Calif.

Bell & Howell Co. (3)
1815 Larchmont Ave., Chicago, Ill.
(See advertisement on page 179)

Bray Pictures Corp. (3, 6)
729 Seventh Ave., New York, N. Y.

Castle Films (2, 5)
R C A Bldg., New York, N. Y.
(See advertisement on page 149)

Central Education Association (1)
123 S. Washington St.,
Green Bay, Wis.

College Film Center (3, 5)
84 E. Randolph St., Chicago, Ill.

Community Movies (3)
1426 W. Washington St.
Charleston 2, W. Va.

Creative Educational Society (1)
4th Fl., Coughlan Bldg.
Mankato, Minn.

DeVry School Films (3)
1111 Armitage Ave., Chicago, Ill.
(See advertisement on page 146)

Eastman Kodak Stores, Inc. (3)
Eastman Classroom Films
356 Madison Ave., New York, N.Y.

Encyclopaedia Britannica Films, Inc.,
1841 Broadway, New York 23 (2, 5)
(See advertisement on page 171)

Films, Inc. (3)
330 W. 42nd St., New York, N. Y.
64 E. Lake St., Chicago
314 S. W. Ninth Ave., Portland, Ore.
(See advertisement on page 175)

Fryan Film Service (3)
2nd Floor, Film Building
Cleveland, Ohio

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1924 Rose St., Regina, Sask.
156 King St. W. Toronto

Walter O. Gutlohn, Inc. (3)
25 W. 45th St., New York, N. Y.
(See advertisement on page 180)

Hoffberg Productions, Inc. (2, 5)
618-20 Ninth Ave., New York, N. Y.

Ideal Pictures Corp. (3, 6)
28 E. Eighth St., Chicago, Ill.
(See advertisement on page 173)

Institutional Cinema Service (3)
1560 Broadway, New York 19, N. Y.

Knowledge Builders Classroom Films
625 Madison, New York, N. Y. (2, 5)

Mogull's Inc. (3)
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(See advertisement on page 182)

Post Pictures Corp. (3)
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The Princeton Film Center (2)
55 Mountain Ave., Princeton, N. J.

Swank's Motion Pictures (3)
620 N. Skinker Blvd., St. Louis, Mo.
(See advertisement on page 176)

Universal Pictures Co., Inc. (2, 5)
Rockefeller Center, New York City
(See advertisement on page 183)

Visual Education Incorporated (3)
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19 S. LaSalle St., Chicago
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The Ampro Corporation (3)
2839 N. Western Ave., Chicago, Ill.
(See advertisement on page 150)

Bell & Howell Co. (3)
1815 Larchmont Ave., Chicago, Ill.
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Central Education Association (1)
123 S. Washington St.,
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DeVry Corporation (3, 6)
1111 Armitage Ave., Chicago, Ill.
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28 E. Eighth St., Chicago, Ill.
(See advertisement on page 173)

Mogull's Inc. (3)
68 W. 48th St., New York 19

Radio Corporation of America (2)
Educational Dept., Camden, N. J.
(See advertisement on page 152)

Ralke Company (2)
829 S. Flower St., Los Angeles 14, Cal.

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Radiant Mfg. Company
1144 W. Superior St.,
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Society for Visual Education, Inc.
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Williams, Brown and Earle, Inc.
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Society for Visual Education, Inc.
100 E. Ohio St., Chicago, Ill.
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The Jam Handy Organization
2900 E. Grand Blvd., Detroit, Mich.
(See advertisement on page 169)

The Stanley Bowmar Co.
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Williams, Brown and Earle, Inc.
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(See advertisement on page 173)

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(See advertisement on page 148)

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Keystone View Co.
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(1) indicates 16mm silent.
(2) indicates 16mm sound.
(3) indicates 16mm sound and silent.
(4) indicates 35mm silent.
(5) indicates 35mm sound.
(6) indicates 35mm sound and silent.

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